AMF® REECE

Better Ideas, Better Made

MODEL AUTOJIG

84-72 MS

PARTS AND SERVICE MANUAL

PART NUMBER 97.8472.0.000

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11/2012

AMF® REECE
Better Ideas, Better Made

LIMITED WARRANTY ON NEW AMF REECE EQUIPMENT

Warranty provisions:

A ninety (90) day limited service labor warranty to correct defects in installation, workmanship, or material without charge for labor. This portion of the warranty applies to machines sold as "installed" only.

A one (1) year limited material warranty on major component parts to replace materials with defects. Any new part believed defective must be returned freight prepaid to AMF Reece, Inc. for inspection. If, upon inspection, the part or material is determined to be defective, AMF Reece, Inc. will replace it without charge to the customer for parts or material.

Service labor warranty period shall begin on the completed installation date. Material warranty shall begin on the date the equipment is shipped from AMF Reece, Inc.

Exclusions:

Excluded from both service labor warranty and material warranty are: (1) Consumable parts which would be normally considered replaceable in day-to-day operations. These include parts such as needles, knives, loopers and spreaders. (2) Normal adjustment and routine maintenance. This is the sole responsibility of the customer. (3) Cleaning and lubrication of equipment. (4) Parts found to be altered, broken or damaged due to neglect or improper installation or application. (5) Damage caused by the use of non-Genuine AMF Reece parts. (6) Shipping or delivery charges.

There is no service labor warranty for machines sold as "uninstalled".

Equipment installed without the assistance of a certified technician (either an AMF Reece Employee, a Certified Contractor, or that of an Authorized Distributor) will have the limited material warranty only. Only the defective material will be covered. Any charges associated with the use of an AMF Reece Technician or that of a Distributor to replace the defective part will be the customer's responsibility.

NO OTHER WARRANTY, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, and FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER IS GIVEN BY SELLER OR SELLER'S AGENT IN CONNECTION HEREWITH. UNDER NO CIRCUMSTANCES SHALL SELLER OR SELLER'S AGENT BE LIABLE FOR LOSS OF PROFITS OR ANY OTHER DIRECT OR INDIRECT COSTS, EXPENSES, LOSSES OR DAMAGES ARISING OUT OF DEFECTS IN OR FAILURE OF THE EQUIPMENT OR ANY PART THEREOF.

WHAT TO DO IF THERE IS A QUESTION REGARDING WARRANTY

If a machine is purchased through an authorized AMF Reece, Inc. distributor, warranty questions should be first directed to that distributor. However, the satisfaction and goodwill of our customers are of primary concern to AMF Reece, Inc. In the event that a warranty matter is not handled to your satisfaction, please contact AMF Reece office:

Europe
Prostejov, Czech Republic
Phone: (+420) 582-309-286
Fax: (+420) 582-360-608
e-mail: service@amfreece.cz

AMF® REECE
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Warranty Registration Card

(Please Fax or Mail immediately after installation)

Note: All Warranty Claims Void, unless Registration Card on file at AMF Reece HQ

Machine model number:
(S101, S100, S104, S211, Decostitch, S4000 BH, etc)

Manufacturer‘s serial or production number:

Installation Site Information:

Customer‘s Name:

Customer‘s Mailing Address:

Customer‘s Telephone Number:

Supervising Mechanic‘s or Technician‘s Name:

Signature of Supervising Technician:

AMF Reece Technician‘s Name:

AMF Reece Technician‘s Signature:

Type of garment produced at this location?

Average Daily Production Expected from this machine?
(number of buttonholes, jackets sewn, pants produced, buttons sewn, etc)

Any special requirements required at this location?

What other AMF Reece Machines are at this location?

How can we serve you better?

Tovární 837, 796 11 Prostějov, Czech Republic
Fax: +420 582 360 606, e-mail: service@amfreece.cz, website: www.amfreece.com

A.M.F Reece Autojig Machine AJ 84-72M

Service Manual

for

Serial No. 0001 Onwards

Contents

1 Introduction
2 Using Jigs
3 Operating Instructions
4 Setting Procedures
5 Controller, Program Description and Electrical Circuit Diagram
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11 Sunstar Spare Parts List
12 Efka Manual

SAFETY INSTRUCTIONS

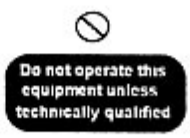
- The machine must only be used for the purpose it was designed for. In case of conversion into another version all valid safety instructions have to be considered.

- Do not operate this machine without the safety devices it is equipped with.

DANGER

All guards must be in position before starting

- The machine must only be switched on and operated by persons who have been instructed accordingly.



- When exchanging parts and when doing maintenance work the machine must be disconnected either by actuating the master switch or by removing the mains plug.

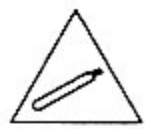
CAUTION
Risk of electric shock

- When threading machine Emergency Stop must be engaged or the machine switched off.

CONTINUED.....

SAFETY INSTRUCTIONS CONTINUED

- When carrying out maintenance or repair work on pneumatic devices the machine must be disconnected from the pneumatic supply source.



CAUTION
Compressed air

- Work on electrical equipment on this machine must only be carried out by electricians or other persons who have instructed accordingly.

- The actual 'A' weighted sound pressure level taken on an identical machine is 75.5 DB (A)
- Take appropriate measures for protection of hearing if sound pressure of 85 DB (A) is exceeded.

- Ensure lifting rail is used when lifting with fork lift truck.

IMPORTANT NOTES

To avoid trouble or damage it is absolutely necessary to observe the following instructions.

- Before you put the machine into operation for the first time clean it thoroughly, remove all dust which has accumulated on it.
- Oil all necessary parts ensuring drive wheel section is free from any type of lubricant.
- Check to make sure line voltage agrees with the voltage indicated on the motor rating plate. If it does not, be sure **not to** plug in the machine.
- The balance wheel should always rotate towards you (when standing at the front of the machine). If it does not, alter the direction of the motor. Refer to Efka manual section, motor direction setup.
- Check you have the correct pneumatic line pressure.
- Always make sure the correct program is selected on the AMF Reece controller related to the type of jig being used.

QUICK REFERENCE SPECIFICATION SHEET

ELECTRICAL REQ:	220v @60Hz, single phase, 600W 240v @50Hz, single phase, 600W
AIR SUPPLY:	Pressure - 80 p.si (5.5 Bar) Consumption - 0.40 c.f.m (12 l/Min)
NOISE LEVEL:	75.5 DB (A)
SEWING HEAD:	Sunstar KM-506-7S Lockstitch with underbed trimmer
SEWING HEAD MOTOR:	**AB221A**
SEWING HEAD SPEED:	2600 SPM (at max)
STITCH SIZE:	0.5mm - 3.5mm (max varies with material)
LUBRICATION SYSTEM:	Sunstar Head - Sump Reservoir, Wick and Pump Distribution System.Jig Track - Silicon Spray
NEEDLE TYPE:	**134 R**
RECOMMENDED THREAD:	Core spun polyester/cotton.
SEWING AREA:	175 x 175mm
TABLE HEIGHT:	930mm (36.5")
OPERATOR POSITION:	Standing

AMF REECE

Better Ideas, Better Made

AMF Reece Autojig, Models:

AJ84-72M

Manual Version
November 2012
Serial Number 113 Onwards

2.1 Loading of Material into the Jig (e.g. Collar)

a) Open jig and position lower ply of cloth to the jig location marks.

b) If the jig has a fulling bar (i.e. middle section) close this on to the lower ply of cloth.

c) Position the upper ply of cloth to jig location marks.

d) Close the top plate of the jig.

e) Jig now ready to insert into machine.

2.2 Loading jig to the machine

a) Slide the loaded jig with the right hand on the top plate, towards the needle, lining up the start position approximately 1/2" (13mm) behind the needle.

NOTE:
When the jig is loaded, do not lift up from the table.

b) Push the jig to the right and over the raised flap in front of the needle plate.

c) As the jig is pushed to the right, the jig flap will drop to its normal position.

d) If the jig is located correctly, the raised 'D' shape of the needle plate will locate in the track of the jig.

e) Pull jig back to closed track. (Double jig should be pulled back so jig contacts presser foot).

f) When the jig is loaded correctly to the machine, press the green start button located on the table top; and the automatic cycle will begin.

g) At the end of the cycle the jig will be ejected (or, in the case of a double jig, wait to be pulled forward to its start position).

NOTE:
The machine has an A.M.F. Reece controller that is programmed to perform different functions, depending on the type of jig being used.

2.3 Program Selection

The different programs are achieved by selecting programs 1 – 6 on the A.M.F. Reece controller.

a) **Collar Jig**
requiring needle down both corners

– select program 3

b) **Double Pocket Flap**
– select program 2

c) **Single Pocket Flap**
– select program 1

d) **Single Breasted Jacket**

– select program 5

e) **Double Breasted Jacket**

– select program 6

f) **Collar – Slow Sew Round Collar**
– select program 4

3.1 To start up the Machine

a) Turn the green switch on the right hand front panel of the machine, to switch on the air supply to the machine.

b) Press black button on starter box.

NOTE:
The presser foot of the machine is always in the raised position when the machine is in the 'Stop' mode with the air and power switched on.

Carry out the following steps of procedure after the power switch has been turned OFF.

3.2 Installation of Needle

Insert the needle to the needle bar to the full with its longer groove to the left, and firmly fasten by using the needle clamp screw (Figure 3.1).

Applicable needle: 134

NOTE:
Needle size and needle point are dependent on the type of material being used. (Refer to needle and thread section 3.13).

a) Using a screwdriver, loosen the needle set screw on the left hand side of the needle bar.

b) Insert the needle and push it up as far as it will go (make sure the long groove faces towards the left).

c) Tighten needle set screw securely.

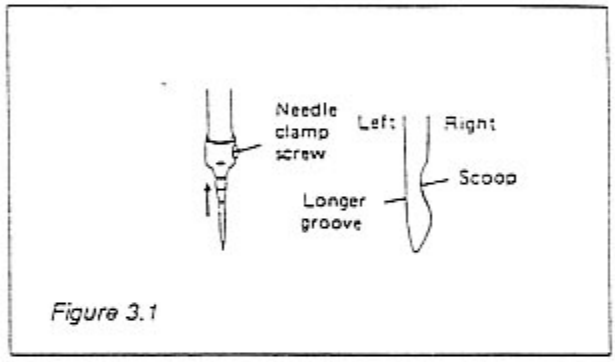


Figure 3.1

3.3 Threading of Upper Thread

Turn the handwheel toward you to make the thread take-up reach the highest position, and run a thread from the spool pin to the needle through each part in such an order as numbered in Figure 3.2. At the needle, run the thread from left to right and leave the thread end for approx. 5 cm.

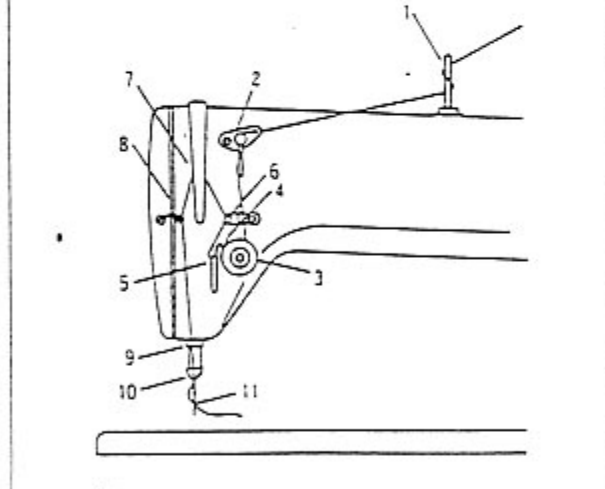


Figure 3.2

3.4 Bobbin winding

a) Set the bobbin with the bobbin winder spindle, and wind the thread on the bobbin for a few turns by hand.

b) Push fully the bobbin winder setting lever to make the winder pulley contact with the V-belt.

c) Set winding capacity at 80% using the bobbin winding capacity regulating screw.

d) If bobbin winding is uneven, adjust the position of the bobbin winder complete so that winding becomes even.

e) When winding finishes, the bobbin winder setting lever flips up and the bobbin winding pulley stops.

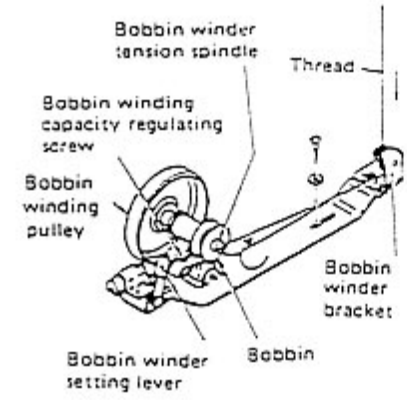


Figure 3.3

3.5 Bobbin setting into Bobbin Case

a) Set the bobbin in the bobbin case in such a way that the bobbin will rotate in the direction as shown by arrow in Figure 3.4 when thread is pulled out.

b) Run a thread through the thread guide of the bobbin case and draw the thread, and the thread will come out from the thread feeder through the tension spring.

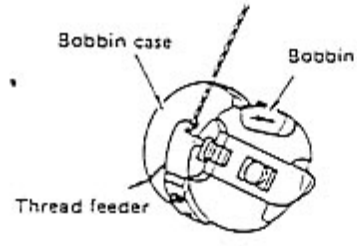


Figure 3.4

MACHINE ADJUSTMENTS

3.6 Upper Thread Tension (Figure 3.5)

Use the tension regulating thumb nut. Clockwise turns increase tension, and counterclockwise turns decrease tension.

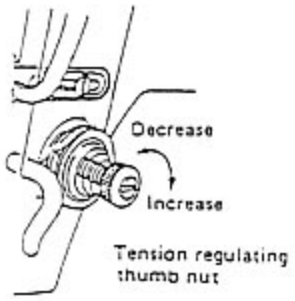


Figure 3.5

3.7 Lower Thread Tension (Figure 3.6)

Turn the tension screw clockwise to increase, and counterclockwise to decrease.

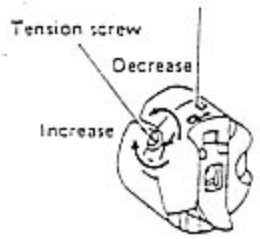


Figure 3.6

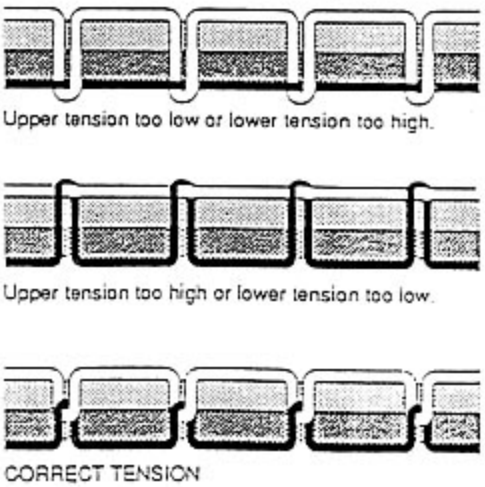


Figure 3.7

3.8 Adjustment of Stitch Length

To adjust the stitch length, turn the feed regulating dial (Figure 3.8).

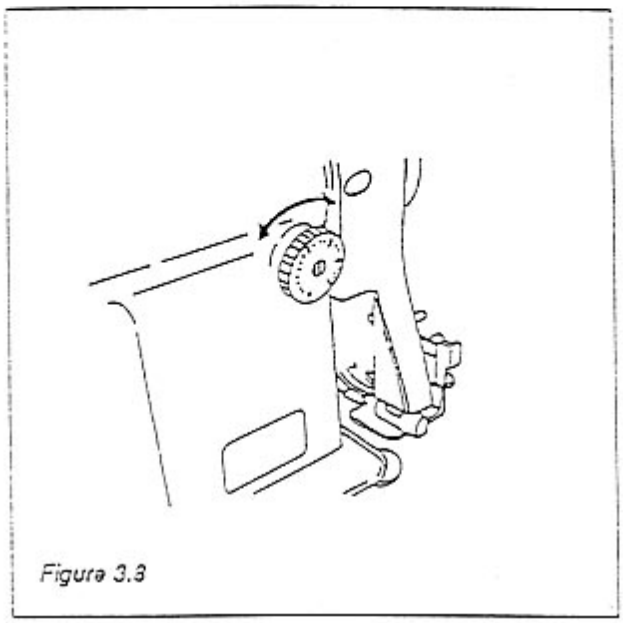
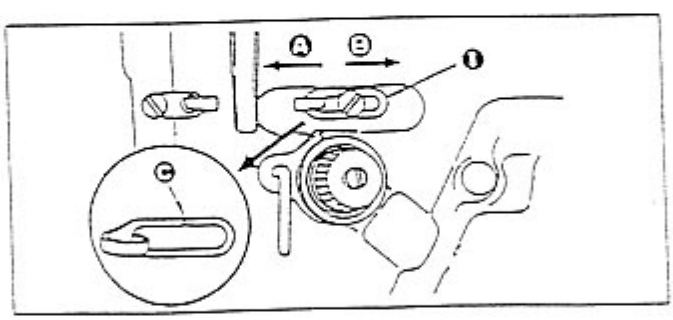


Figure 3.8

3.9 Adjusting The Thread Take-up Stroke

Carry out the following steps of procedure after the power switch has been turned OFF.

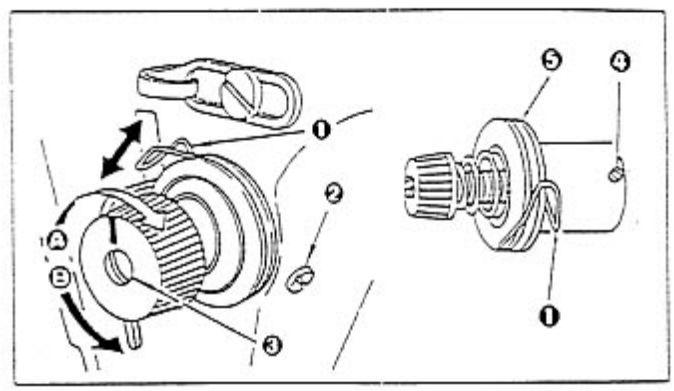
1) When sewing heavy-weight materials, move thread guide ❶ to the left (in direction Ⓐ) to increase the length of thread pulled out by the thread take-up.
2) When sewing light-weight materials, move thread guide ❶ to the right (in direction Ⓑ) to decrease the length of thread pulled out by the thread take-up.
3) Normally, thread guide ❶ is positioned in a way that marker line Ⓒ is aligned with the center of the screw.



3.10 Thread Take-up Spring

1. Changing the stroke of thread take-up spring ❶
1) Loosen setscrew ❷ .
2) As you turn tension post ❸ clockwise (in direction Ⓐ), the stroke of the thread take-up spring will be increased.
3) As you turn the knob counterclockwise (in direction Ⓑ), the stroke will be decreased.

2. Changing the pressure of thread take-up spring ❶
1) Loosen setscrew ❷ , and remove thread tension (asm.) ❺ .
2) Loosen setscrew ❹ .
3) As you turn tension post ❸ clockwise (in direction Ⓐ), the pressure will be increased.
4) As you turn the post counterclockwise (in direction Ⓑ), the pressure will be decreased.



Cleaning

Clean the hook and base area once every day, removing any lint or thread which may have accumulated. For this purpose, the jig plate can be removed from the machine. Switch off the machine, unscrew the needle plate and remove the lint with a soft brush.

Remove the jig drive guard and clean away any dust or lint which may have accumulated.

NOTE:
Never oil the jig drive wheel.

3.11 Regulating Foot Pressure on Jig

Adjustment of Presser Pressure

Turn the presser regulating screw clockwise to increase, and counterclockwise to decrease. Be sure to tighten the nut after adjustment. A foot pressure of approximately 1-5 to 2 kg will give best results on all materials.

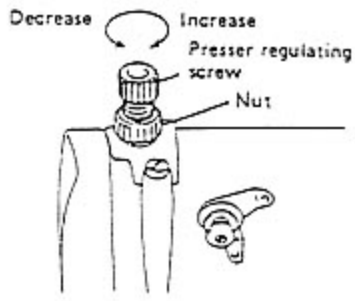


Figure 3.10

3.12 Emergency Stop

This is achieved by pressing the red Stop button. This will activate Emergency Stop sequence. Machine will not restart until Stop button is reset.

3.13 Needle and Thread

Selection of the proper needle depends on the material and thread used.

For selection of the proper needle and thread sizes refer to the table below:

		THREAD SIZE				
	NEEDLE SIZE (NM)**	COTTON	SILK	SYNTHETIC	LINEN	NEEDLE SYSTEM
A	60	100 - 80	140	200 - 150		134k
	70	70 - 60	120	180 - 120		
B	80	60 - 50	100	120 -100		134k
	90	50 - 40	80	100 - 80	70	
	100	40 - 30	70	80 - 60	60	
C	110	30 - 24	60	60 - 50	50	134k
	120	20	50	50 - 40	40	
	130	12	40	40 - 30	35	
	140	10	30	30 - 20	30	

A = LIGHT WEIGHT MATERIALS

B = MEDIUM WEIGHT MATERIALS

C = HEAVY WEIGHT MATERIALS

NM** = NEEDLE SIZE IN HUNDRETHS OF MM

4.1 Jig Feed Mechanism

a) Feed Motion Timing

Time the feed motion to be completed when the descending needle is approximately 6mm above the material.

Alterations to the stitch length are made in the usual manner using the stitch regulator.

b) Drive Wheel Assembly (Figure 4.1)

To replace a worn drive wheel detach the drive arm (10) from the machine bed, unfasten the spherical rod end bearings (14) from the arm and the drive wheel housing. Next remove the bearing (22), free-wheel housing (20) and drive wheel (18) complete from the arm. Using the two M5 holes in the drive wheel with two screws as an anchor, loosen nut (25) and remove drive wheel from bearing. When re-assembling care should be taken that all surfaces are clean and free from lint etc. The pivot spindle (17) should at this stage be lubricated with graphited grease before replacement into the drive wheel.

CAUTION:
ORDINARY GREASE OR LUBRICATING OIL IS NOT SATISFACTORY IN THE DRIVE WHEEL STUD HOUSING. USE A GREASE CONTAINING GRAPHITE OR MOLYBDENUM DISULPHIDE.

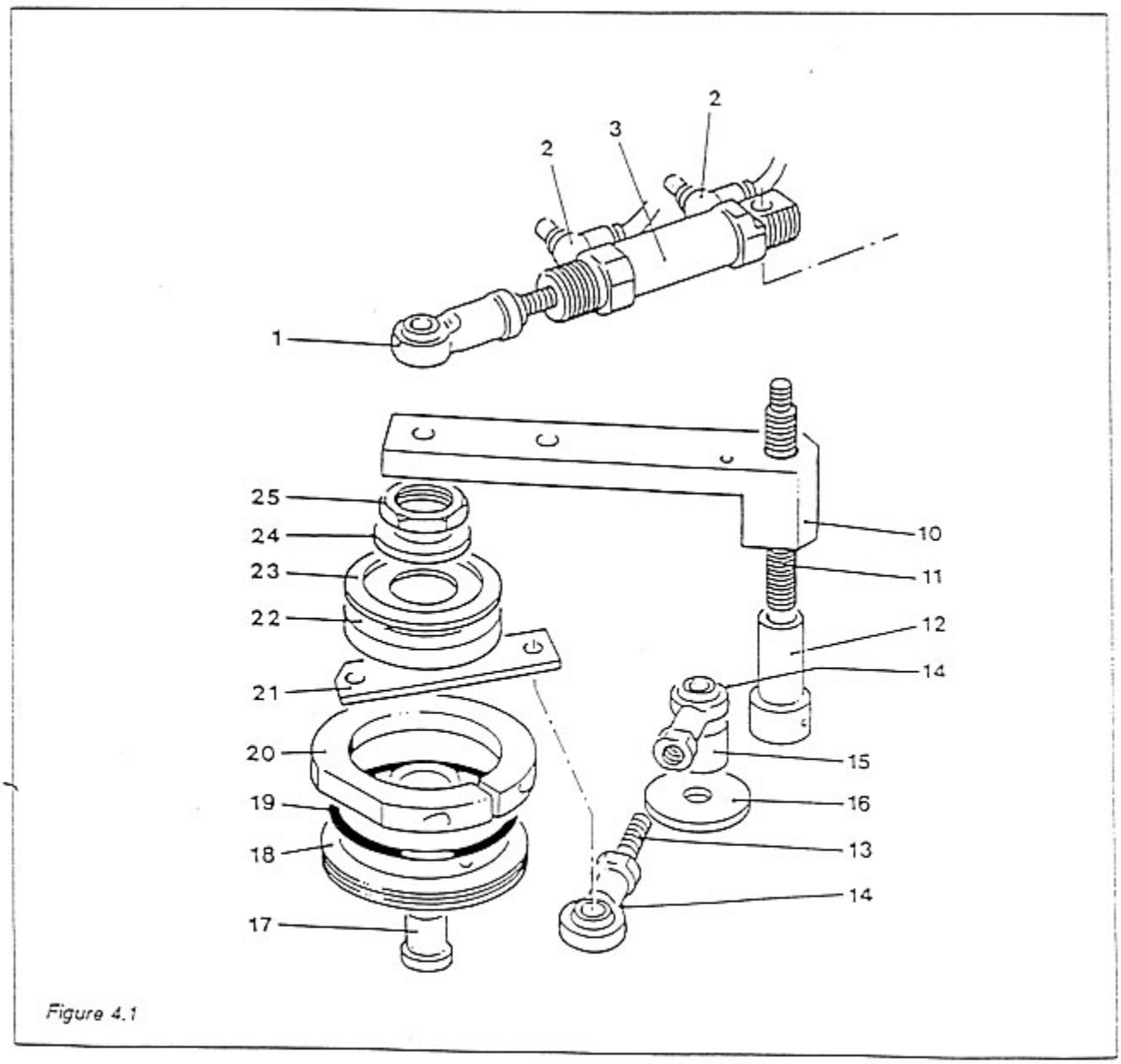


Figure 4.1

The clutch is lubricated with oil and has an 'O'-ring on the bottom to prevent oil leakage. It is also covered with a 'Nilos' sealing ring to exclude dust and fibrous waste. The clutch should be lubricated lightly every 100 running hours with light machine oil (non-staining).

Ensure drive wheel does not foul on base of machine, when unit is tightened down.

c) *Drive Wheel Cylinder (Figure 4.1)*

The rod end bearing (1) should be set so that when the cylinder is fully extended the drive wheel is taken 3mm past its contact position.

CAUTION:
CHECK THIS SETTING BECAUSE, IF THE DRIVE WHEEL TRAVELS TOO FAR, IT WILL CONTACT AND DAMAGE THE PHOTOCELL IF THE MACHINE IS RUN WITHOUT A JIG.

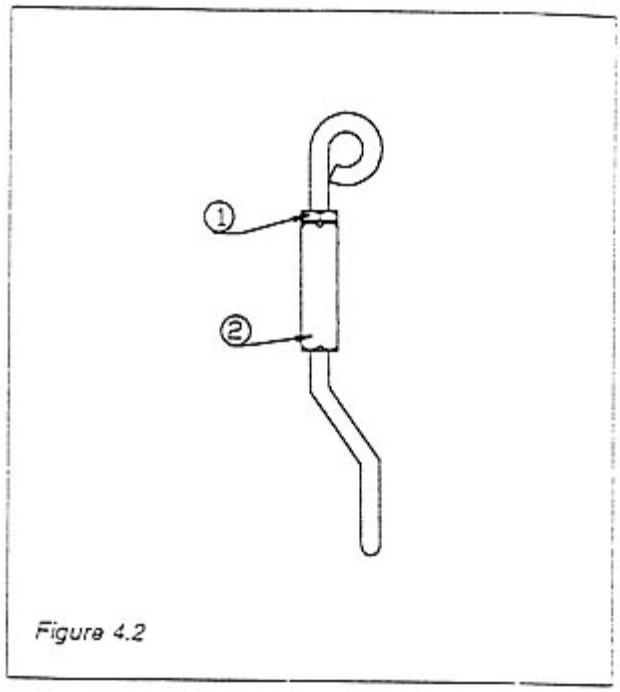


Figure 4.2

d) *Drive Wheel Surface*

The driving surfaces of the wheel must not be contaminated with any lubricant or silicone Aerosols etc., as this will affect the feeding. Clean the tapered groove with solvent if contamination is suspected.

4.2 Dense Stitch Size

The size of the dense stitches themselves may be altered using the adjustment nut 2 on the dense stitch adjuster located underneath the machine bed. By losening nut 1 and rotating nut 2 clockwise the size of the dense stitches will increase. When the correct size is achieved use nut 1 to lock nut 2 in position. See fig 4.2.

4.3 Number of Dense Stitches

The A.M.F. Reece controller is set to give a timed sequence of dense stitches at the start and end of stitching. These two conditions can be altered by tenths of a second to give longer or shorter length of dense stitch.

The speed of the dense stitch may be altered to faster or slower (see Section 5.3).

4.4 Needle Reverse

The Efka motor may be programmed to take the needle to its highest position, when thick cloth is being used. This allows the presser foot to be set higher without needle protruding. (see Section 12, Efka Manual 3.3, – Increments for Revision).

4.5 Turn Arm / Variable Speed Setting Instructions

1. To obtain uniform stitching on radiussed corners it is necessary to find the machine speed that is matched to the speed of the torque arm. This is done by altering slow sew speed in A.M.F. Reece controller (see Section 5.3.4). Small stitches on a corner indicate too fast a machine speed, so this would require the speed to be lowered. Large stitches at the corner indicate too slow a machine speed. Correct this by increasing speed in A.M.F. Reece controller.

2. Actuation of the torque arm is caused by the photocell being energised after it has cleared the first piece of tape on the corner of the jig, it is returned when it is de-energised by the second piece of tape which is placed after the corner. It is possible to turn approx. 175° (see Figure 4.5).

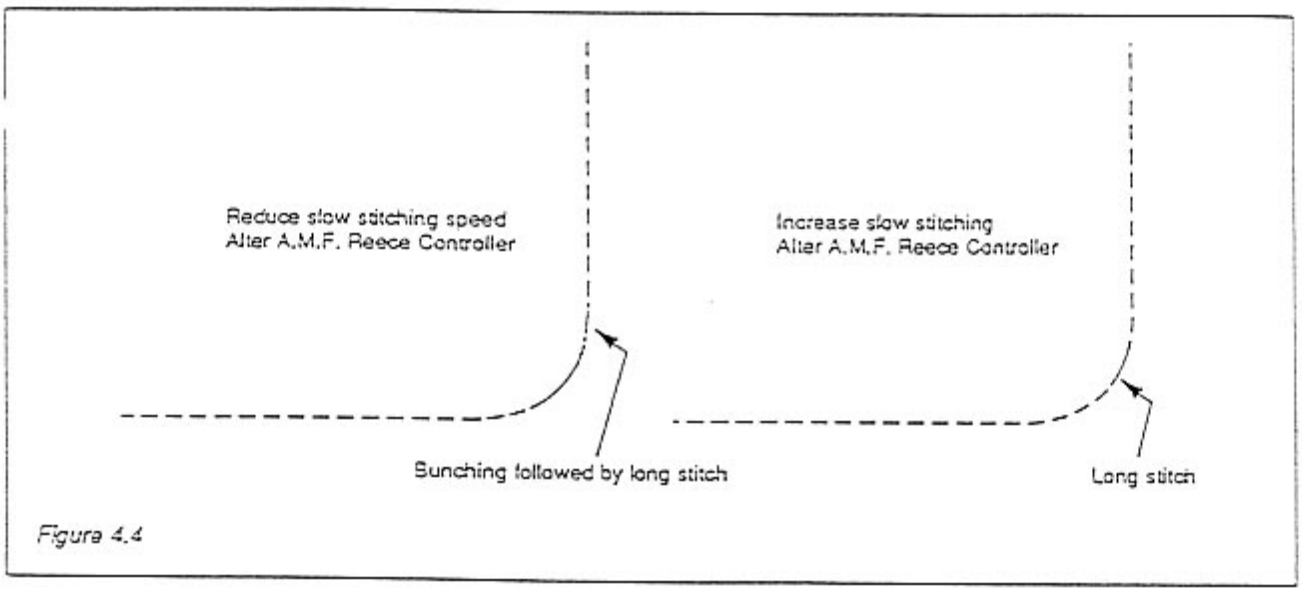


Figure 4.4

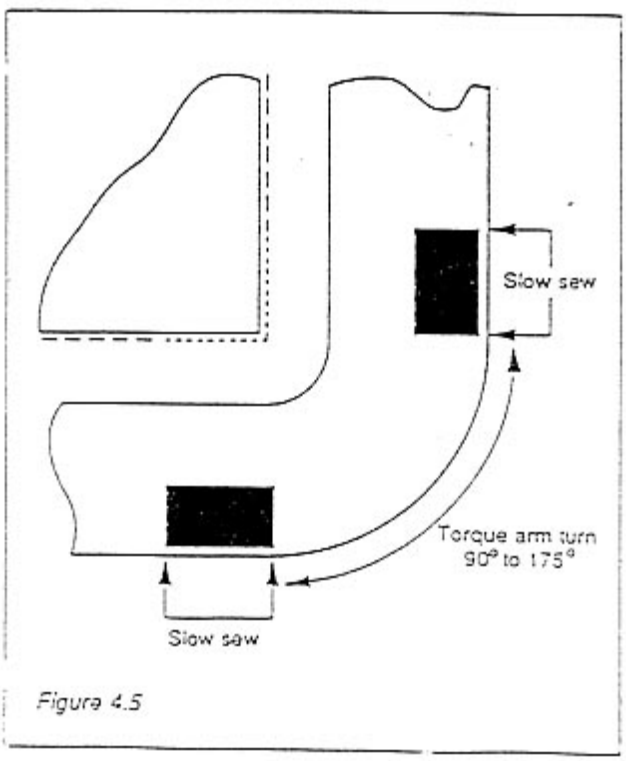


Figure 4.5

3. The turn arm has a 20mm cylinder fitted. This is in return position when torque arm is at rest, this is to allow jigs with internal radii to pass underneath. Also fitted to the torque unit are two flow controls; these restrict the exhausted air to ensure that the jig turns smoothly.

TAPE POSITION AT CORNERS (Guide only)

4.6 Photo-Electric Switch

Fig. 1

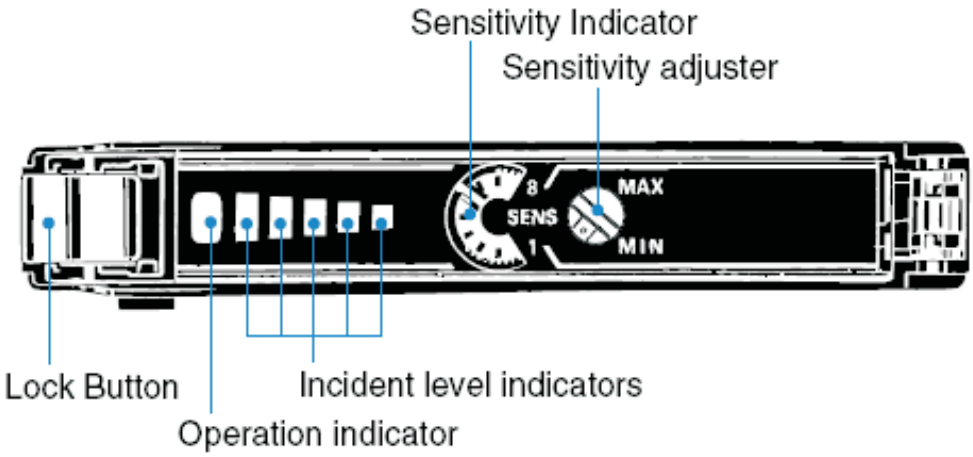
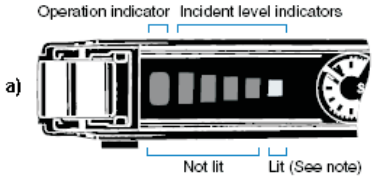
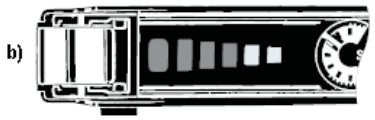
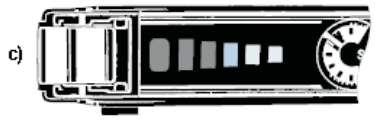


Fig. 2

Indicator status (L/ON)	Operation indicator (L/ON)	Incident level
a) 	Not lit	Approx. 80% to 90% of operating level
b) 	Not lit	Approx. 80% to 90% of operating level
c) 	Not lit or lit	Approx. 90% to 110% of operating level
d)	Lit	Approx. 110% to 120% of operating level
e)	Lit	Approx. 120% min. of operating level

a) Hints on correct use

Do not use the sensor i explosive or ignition gas.
Never disassemble, repair nor taper with the sensor.
Do not apply excess voltage and current over rating.
Do not wire improperly such as reversing polarity.
Do not short-circuit load.
Do not remove protective cover from the sensor.

b) Indication

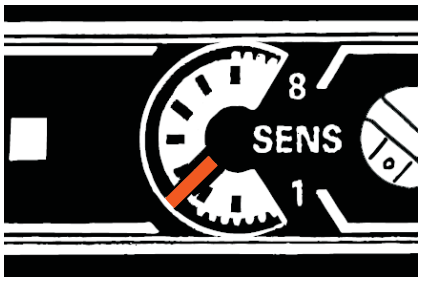
In addition to the operation (orange). Sensor has indicators that denotes the level (4 green and 1 red indicators). Use them for optical axis adjustment and maintenance.

c) Sensitivity adjustment

To adjusting of correctly follow those steps:
aa) Put the jig with black tape under the sensor. When the black tape is under the sensor, operator indicator must not lit and one or two incident level indicators have to lit (green) see figure 1a, 1b.
bb) Move the jig to the position without black tape. Here operator indicator has to lit and three or more incident indicators have to lit see figure 1d, 1e.

If sensor doesn´t work according points mentioned above change the position of sensitivity adjuster. Standard position for sensitivity adjuster is show in figure 2.

Fig. 3



5.1 Preface

The A.M.F. Reece controller expands the facilities of machine control to provide a new level of understanding between the operator and machine. By interpreting the messages sent to and from the jig controller it turns the system into a powerful centre for control, instruction and reporting.

It is a two way dialogue for virtually any machine control needed.

For basic control:

> PLEASE LOAD JIG

For changing machine setting:

> KNIFE DELAY = 0.8 sec

For fault diagnosis:

> SYSTEM CHECK ?

5.2 Instructions – Definitions

When the A.M.F. Reece controller powers up the first message that appears on the display is the machine type and software version number. New versions of software are developed to provide improvements to existing features, new features and correction of software errors. (If the software version needs to be changed then follow exactly the instructions on software release note).

AMF – REECE (c)
Controller V 1.0

The controller then runs a quick self-test on the electronics and if no malfunctions are found then the last used program number will be set and displayed. There are up to six program numbers available. The displayed message is called the RUN or SEW menu.

[RUN] Program 2
Position Jig

5.2.1 *General Controller Program Blocks – MOVING AROUND*

NOTE 1:
Capital printed letters is text on the display.

NOTE 2:
This example explains program structure for detailed information go to 5.3.1).

	MENU NAME	VIEWED ON DISPLAY	BUTTON PRESSED
a)	Run menu	**Autojig Program X** **Knife ON - Insert Jig**	Power On
b)	Main menu	1.Systemcheck 2.Edit 3.Counter 4.Sequence	Press Cntr
c)	System check menu *line 1*	1. INPUT TEST ? 1. YES	Press No. 1 To select systemcheck
	line 2	2. OUTPUT TEST 1. YES	Press up arrow To select next test
	line 1	1. INPUT TEST ? 1. YES	Press down arrow To select previous test

MENU NAME	VIEWED ON DISPLAY	BUTTON PRESSED
c.1) Input test		Press No. 1 To select the input test
	1. START BUTTON [OFF]	
		Press up arrow To select next input
	2. PHOTOCELL [ON]	
		Press down arrow To select previous test
	1. START BUTTON [OFF]	
line 2		Press Cntr To end input test
	2. OUTPUT TEST 1. YES	
c.2) Output test		Press No. 1
	1. JIG DRIVE 1. ON/OFF 2. END	
line 3		Press No. 2 To end output test
	3. POSITION TEST 1. YES	
main menu		Press Cntr To go to main menu
	1.Systemcheck 2.Edit 3.Counter 4.Sequence	

MENU NAME	VIEWED ON DISPLAY	BUTTON PRESSED
d) Programing menu *line 1*	SELECT PROGRAM NO < 1 TO 6 >	Press No. 2 To select edit
	1. DENSE TIME DELAY = 0.5 SEC	Press No. 2 To select program 2
	1. DENSE TIME E DELAY = 0.5 SEC	Press Edit To select Edit mode
main menu	1.Systemcheck 2.Edit 3.Counter 4.Sequence	Press Cntr To go to main menu
e) Counter menu	TOTAL SEWING CYCLES [00035620001]	Press No. 3 To select counter
b) Main menu	1.Systemcheck 2.Edit 3.Counter 4.Sequence	Press Cntr To end counter menu
a) Run menu	[RUN] PROGRAM 2 > PLEASE LOAD JIG	Press Cntr To return to Run menu

5.3 Step By Step Guide and Keypad Functions

(For Version 1.8s)

NOTE:
When the machine is sewing the keypad is disabled. Most of the keys on the controller keyboard are allocated more than one function.

5.3.1 *The Run Menu*

Button	Description
1 to 6	Program selection
Reset	Set the controller back to the initial settings. This function can be used if the jig is loaded incorrectly, after pressing reset the jig will be ejected.
Knife	This keypad button turns the knife OFF or ON when pressed once again. The state of the knife function can be viewed on the display.
Down Arrow	No function in run/sew menu.
Edit/Save	No function in run/sew menu.
Up Arrow Counter	When these two buttons are pressed together starting with the down arrow button first and then the counter button. Then the batch counter will be displayed. This counter can count up to 9999 pieces.
Up Arrow Reset	When these two buttons are pressed together, starting with the down arrow first and then the reset button. Then the batch counter will be reset to zero. This does not effect the total sewing counter.
Cntr	This is the control button. This button will be used to switch between the various menus. When pressed at Run/sew menu the display will display the main menu.

5.3.2 *The Main Menu*

Cntr	This button will take the program back to the run menu.
1 to 6	At display from the main menu button 1 to 6 will take the program to any of the options displayed in this menu.
Example:	1. Systemcheck 2. Edit 3. Counter 4. Sequence

5.3.3 *Systemcheck*

When entering the systemcheck menu the required test can be selected by using the up or down arrow buttons.

Example:	1. Input test	1. YES
	2. Output test	1. YES
	3. Position test	1. YES
	4. Restore program	1. YES

Once the correct test is displayed press No. 1 to select the test. If cntr button is pressed the program will return to the main menu.

INPUT TEST

By pressing the up or down arrow buttons the input name displayed will change. When the input to be tested is selected then on the second line of the display the current state of the input is displayed. This will be ON or OFF. When switching the selected input the ON/OFF state on the display will change according to the input.

Available inputs

- Start button
- Photocell 1

To end this test press cntr. This will take the program back to the Systemcheck menu.

OUPUT TEST

By pressing the up or down arrow buttons the output name displayed will change. When the output to be tested (in this case jig drive), is selected then the following message is displayed.

```
1. JIG DRIVE
1. ON/OFF  2. END TEST
```

When the number one button is pressed the output will be turned on or off. (Reversed from the previous state). The current state for the output is pointed out by a blinking digit. When ON is blinking the output is turned active. When pressing number one OFF will start blinking

The next output can be selected by pressing the up/ down arrow buttons. When the next output is selected then automatically the previous output will be turned off.

When pressing number two the output test will end and the program returns to the systemcheck menu leaving all outputs off. Pressing the control button will take the program to the main menu again leaving all outputs in the off state.

Available outputs

1. Knife
2. Jig Flap
3. Dense Cylinder
4. Jig Drive
5. Jig Turn
6. Jig Eject
7. Presser Foot
8. Motor Line 1
9. Motor Line 2
10. Motor Line 3
11. Motor Line 4

NOTE:
Some selected outputs will switch two outputs at once, the two outputs will be displayed. This function is a built-in safety measure if damage could occur when setting a single output.

POSITION TEST

By pressing one of the numbers displayed the positioning of the sewing motor can be tested.

1 Needle up

2 Needle down

3 Stop and end test

cntr. Stop and end test

RESTORE PROGRAM

This function can be used to restore the six standard programs to the factory settings.

WARNING
ALL PROGRAMMED DATA WILL BE CHANGED.

```
4. RESTORE PROGRAM
1. YES
```

If number one is pressed the following message is displayed

```
ARE YOU SURE ?
1. YES
```

Press number 1 once again to use this function. While restoring the data the display shows:

```
– SAVING DATA –
```

5.3.4 *The Edit Menu*

The edit menu is used to build or change the six sew programs. The following parameters can be recalled or programmed and stored into non volatile memory according to the application.

1	Fast Sew
2	Double Jig
3	1st Jig Corner
3a	1st Corner Slow Speed
4	2nd Jig Corner
4a	2nd Corner Slow Speed
5	3rd Jig Corner
5a	3rd Corner Slow Speed
6	4th Jig Corner
6a	4th Corner Slow Speed
7	Empty
8	Knife Delay Start
8a	Time-ON, Tape-OFF
8b	Knife Delay Time
9	Knife Delay End
10	Dense into Corner
11	Start Dense Time
12	End Dense Time
13	Start Dense Speed
14	Slow Sew Speed
15	Needle Down Speed
16	Max Sewing Speed
17	Jig Flap Action
18a	Speed to Corner 1
18b	Speed to End
19a	Auxilliary Drive
19b	Select Second Program
20	Photocell Retry Quantity

The Up and Down arrow keys are used to move between the parameters. The value or setting for a particular parameter stored in user memory is displayed on the second line of the screen.

If the program setting needs to be altered then first the EDIT button has to be pressed. Once this button is pressed the letter E is displayed in the right top corner of the display. This indicates that if the arrow buttons are pressed the data will be changed. By pressing the EDIT/SAVE button once again the data can be saved or the edit mode turned off.

NOTE:
It is only possible to alter settings when E for EDIT is displayed. If for any reason the programmed setting has been changed but you later decide that this altered data should not be saved then press the CNTR button. This will turn the edit mode off (Removes E from top right corner) but will not store the new data into memory.

Again the controller has safety features that only allows the selected data to be altered between min and max limits.

Pressing Cntr will return the program to the main menu.

5.3.5 *Total Counter*

When number 3 is pressed when the main menu is displayed the total sewing counter can be viewed. This counter is stored in non volatile memory and increment every jig cycle.

5.3.6 Batch Sequencer.

This is used to allow different styles of jigs to be run consecutively. For example production requirements may demand a collar followed by two cuffs to be sewn in succession.

By pressing 4 in the main menu, this facility is accessed.

1.Systemcheck 2.Edit 3.Counter 4.Sequence

Once accessed, the function may be activated by pressing 1 or deactivated by pressing 2.

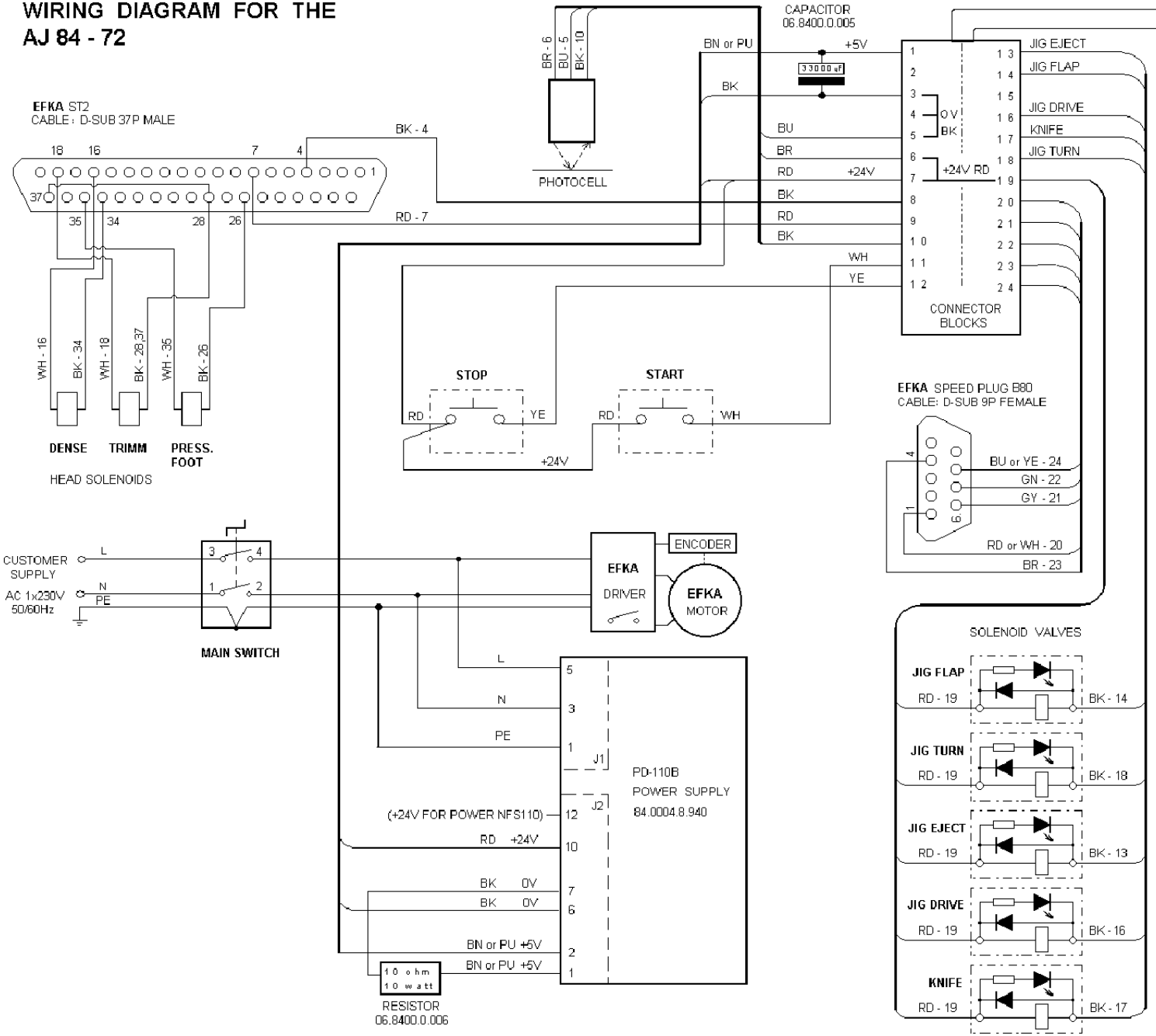
Select JOG Function Press <1> on,<2> off

The required sequence may then be entered

Select Sequence ? ? ? ? ? ?

Control is then pressed to leave this option.

WIRING DIAGRAM FOR THE AJ 84 - 72



EXTERNAL CONNECTOR
D-SUB 25P MALE 84.0005.7.050

PIN NUMBER	SCREW CONNECTOR NUMBER	WIRE COLOUR
1	1	PU
2	--	WH / GN
3	17	YE
4	15	PK
5	18	TQ
6	--	BU / BK
7	24	BU
8	23	BN
9	8	YE / GN
10	--	OG / GN
11	2	WH / BU
12	11	YE / BU
13	12	WH
14	3	BK
15	6	RD
16	14	RD / BU
17	16	WH / RD
18	13	YE / RD
19	20	RD / BK
20	21	GY
21	22	GN
22	--	OG / BU
23	9	RD / BN
24	--	GN / RD
25	10	OG

COLOUR CODE
WH - WHITE - BÍLÁ
BK - BLACK - ČERNÁ
GN - GREEN - ZELENÁ
BU - BLUE - MODRÁ
YE - YELLOW - ŽLUTÁ
RD - RED - ČERVENÁ
BN - BROWN - HNĚDÁ
GY - GREY - ŠEDÁ
OG - ORANGE - ORANŽOVÁ
TQ - TURQUOISE - TYRKYSOVÁ
PU - PURPLE - PURPUROVÁ

AMF REECE
Better Ideas, Better Made

The pneumatics are switched by a bank of solenoid valves located inside the cabinet door. Air is normally on the 'B' lines. When a solenoid valve is energised, the air is transferred to line 'A'.

6.1 JIG FLAP.

When solenoid is energised this allows air through line A1 causing jig flap to lift.

6.2 JIG TURN.

When solenoid is energised this allows air through line A2 causing turn arm to function and turn jig. When solenoid is de-energised this allows turn arm to return to rest position, air through line B2.

6.3 JIG DRIVE.

When solenoid is energised this allows air through line A3 causing jig eject cylinder to operate. When de-energised this allows air to line B3 causing jig eject cylinder to return.

6.4 JIG DRIVE.

When solenoid is energised this allows air through line A4 causing jig drive cylinder to operate and grip jig. When solenoid is de-energised this allows air through B4 causing jig drive to return.

6.5 KNIFE.

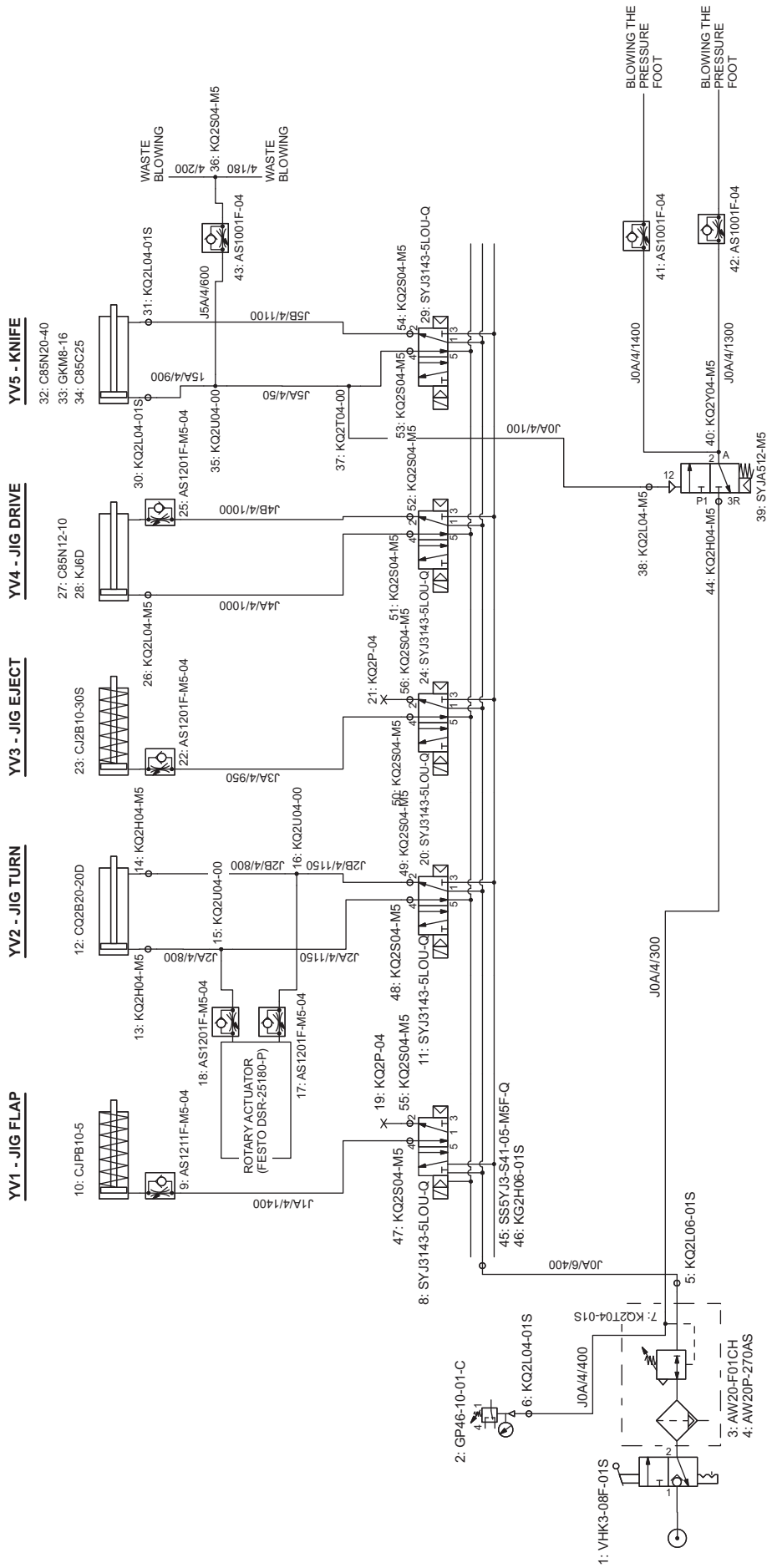
When solenoid is energised this allows air through line A5 causing knife to engage and allowing air to foot and rear blower. When solenoid is de-energised this allows air through B5 causing knife to return to up position, and removes air from waste blowers.

6.6 AIR BLOWERS.

There are three blowers fitted to the machine: one to the throat plate, one to the foot and one to the rear of the machine. All blowers should be set so they dispose of trimmed material to the rear of the machine.

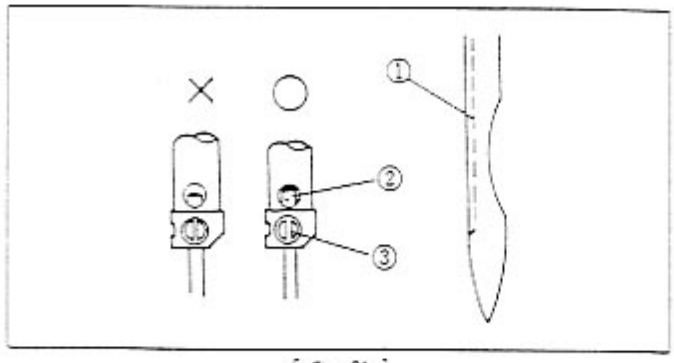
6.7 AIR FLOW REGULATORS.

Most air cylinders are fitted with flow control valves, to adjust the speed of operation of the air piston. For example, drive wheel cylinder (fig 4.1, item 2) must be adjusted so that the drive wheel is brought smoothly into contact with the edge of the jig, otherwise damage may be caused to the jig.


YV1 - JIG FLAP
YV2 - JIG TURN
YV3 - JIG EJECT
YV4 - JIG DRIVE
YV5 - KNIFE
BLOWING THE PRESSURE FOOT
BLOWING THE PRESSURE FOOT
WASTE BLOWING
WASTE BLOWING
ROTARY ACTUATOR (FESTO DSR-25180-P)
1: VHK3-08F-01S
2: GP46-10-01-C
3: AW20-F01CH
4: AW20P-270AS
5: KQ2L06-01S
6: KQ2L04-01S
7: KQ2T04-01S
8: SYJ3143-5LOU-Q
9: AS1211F-M5-04
10: CJPB10-5
11: SYJ3143-5LOU-Q
12: CQ2B20-20D
13: KQ2H04-M5
14: KQ2H04-M5
15: KQ2U04-00
16: KQ2U04-00
17: AS1201F-M5-04
18: AS1201F-M5-04
19: KQ2P-04
20: SYJ3143-5LOU-Q
21: KQ2P-04
22: AS1201F-M5-04
23: CJ2B10-30S
24: SYJ3143-5LOU-Q
25: AS1201F-M5-04
26: KQ2L04-M5
27: C85N12-10
28: KJ6D
29: SYJ3143-5LOU-Q
30: KQ2L04-01S
31: KQ2L04-01S
32: C85N20-40
33: GKM8-16
34: C85C25
35: KQ2U04-00
36: KQ2S04-M5
37: KQ2T04-00
38: KQ2L04-M5
39: SYJA512-M5
40: KQ2Y04-M5
41: AS1001F-04
42: AS1001F-04
43: AS1001F-04
44: KQ2H04-M5
45: SS5YJ3-S41-05-M5F-Q
46: KG2H06-01S
47: KQ2S04-M5
48: KQ2S04-M5
49: KQ2S04-M5
50: KQ2S04-M5
51: KQ2S04-M5
52: KQ2S04-M5
53: KQ2S04-M5
54: KQ2S04-M5
55: KQ2S04-M5
56: KQ2S04-M5
J1A/4/1400
J2A/4/800
J2A/4/1150
J2B/4/800
J2B/4/1150
J3A/4/950
J4A/4/1000
J4B/4/1000
J5A/4/50
J5A/4/600
J5B/4/1100
J0A/4/100
J0A/4/300
J0A/4/400
J0A/4/1300
J0A/4/1400
J0A/6/400
15A/4/900
4/180
4/200

7.1 Needle Insertion.

Hold the lower punch mark of the needle '1' to face the left. Then make the end of the needle butt up to the upper side of the stopper hole '2'. Then secure the needle with the fixing screw '3'. (Refer to fig. 31)



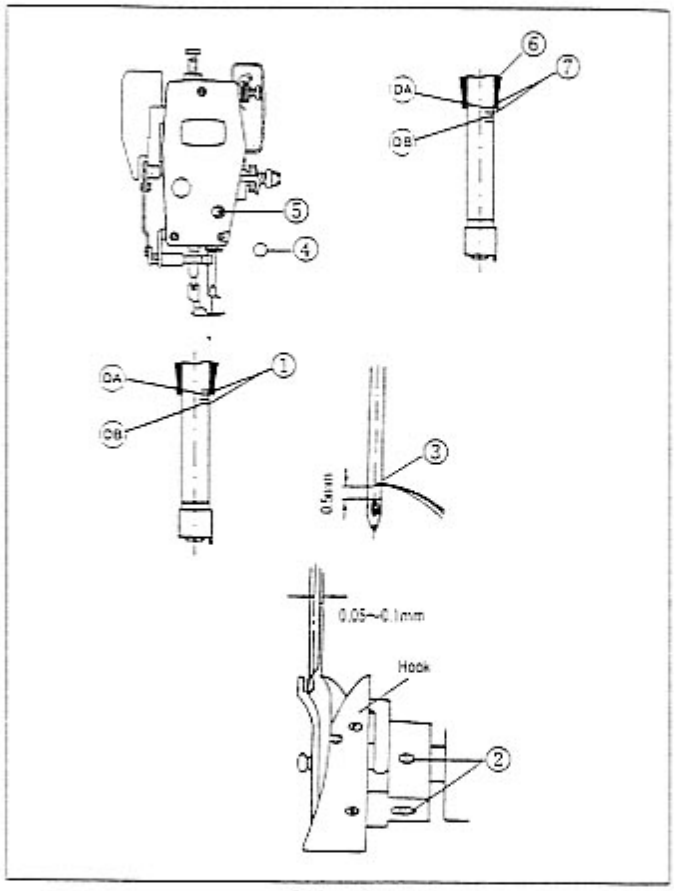
[Fig. 31]

7.2 Adjusting The Needle Bar.

As shown in Fig. 32, remove the rubber plug '4' from the front cover. Rotate the pulley to move the needle to it's lowest position. Then release the needle fixing screw '5'. Align the upper punch mark '7' on the needle bar with the bottom end of the needle bar lower bushing '6' and then tighten the screw '5' and fit the rubber plug '4'.

7.3 Adjusting The Timing Of The Needle Hook.

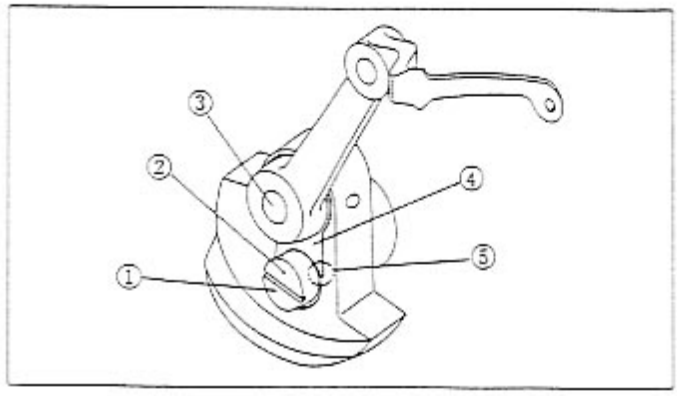
As shown in fig. 32, align the lower punch mark of the needle bar '1' with the end of the lower needle bar bushing '6' and release the three fixing screws '2'.
With the point of the hook '3' set to the centre of the needle adjust the point of the hook to give 0.05-0.1mm gap.
Tighten the three screws '2'.



[Fig. 32]

7.4 Adjusting The Lubrication of the Thread Take-up Lever.

As shown in fig. 33, when the dot '2' marked on the head of the oil adjusting pin '1' aligns with the centre of the thread-take up crank shaft hole '3', the maximum amount of oil is released. If the adjusting pin is turned towards the marks '5', the amount of oil released will be reduced. If the dot '2' passes marks '5', no oil will be released.



[Fig. 33]

7.5 Regulation Of Amount Of Oil Supply To Hook.

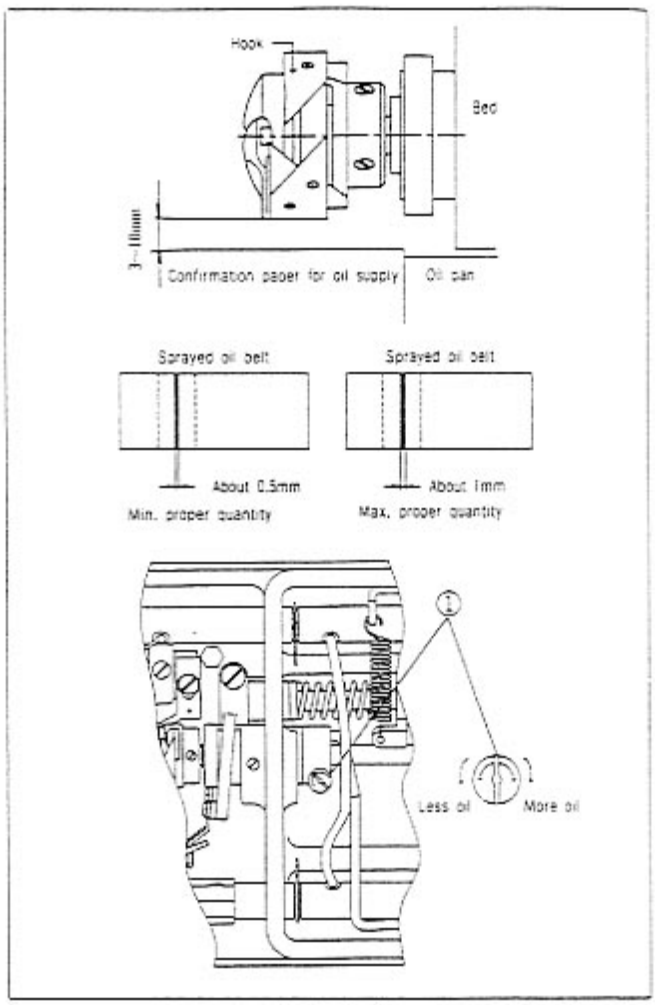
A. Measuring amount of oil supplied.

1. Run the sewing machine on full speed for 3 minutes. Place a piece of paper in position as shown in fig. 34, and run machine for a further 5 seconds. The amount of oil being supplied can now be seen.

2. Repeat this process a further 3 times making sure the oil being supplied is within the limits shown in fig 34.
Too much oil could stain the material being sewn. Too little can cause the hook to seize.

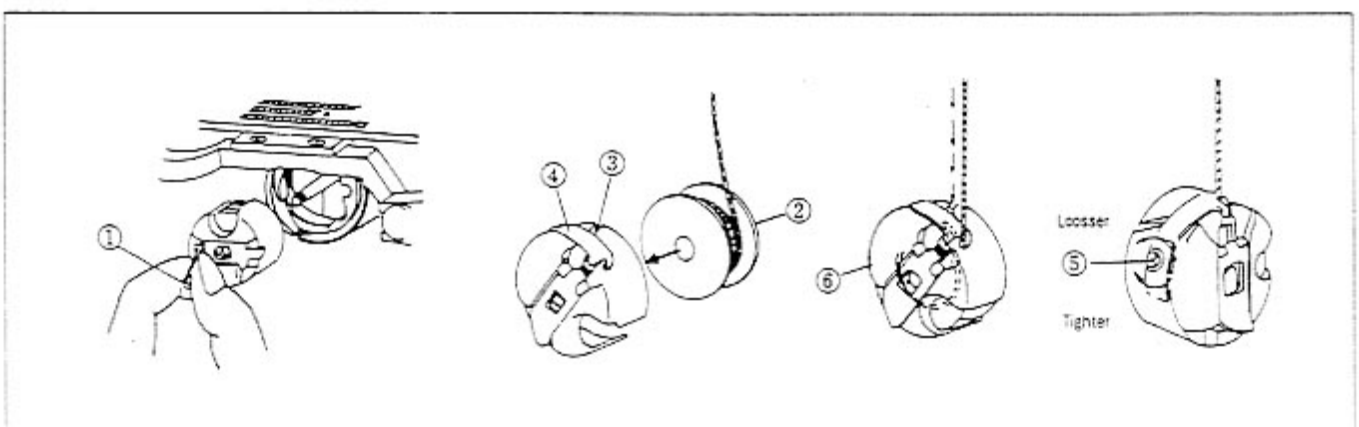
B. Oil Supply Adjustment.

Turning the adjusting screw clockwise, as shown in fig. 34, will **Increase** the oil flow, turning the screw counter clockwise will **Decrease** the oil flow.



[Fig. 34]

7.6 Lower Thread Take Up and Tension Adjustment.



[Fig. 35]

A. Spool Fitting and Tension Adjustment.

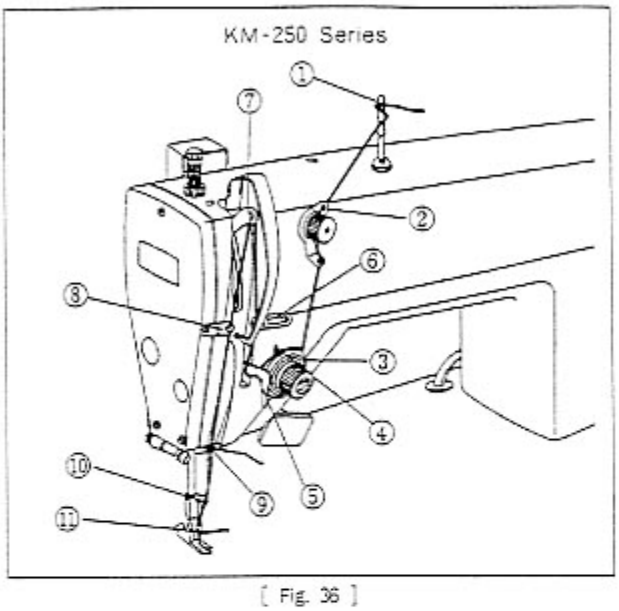
Refer to fig 35. Fit the spool '2' into the spool case '6.' Insert the thread spool in the groove '3.' Then hook the thread under the thread tension adjusting spring '4.' Rotating the tension adjusting screw '5' clockwise, increases the thread tension, rotating the tension adjusting screw '5' anti-clockwise decreases the thread tension. Adjust the thread tension so that the spool case will gradually drop under its own weight.

B. Insertion and Removal of Spool Case.

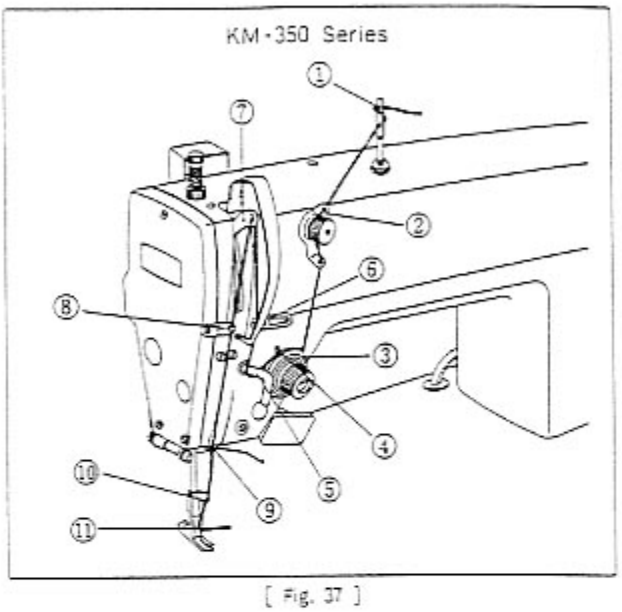
Refer to fig 35. Hold the spool case lever '1' and push the case into the hook. When removing, hold the spool case lever and pull it out of the hook.

7.7 Upper Thread Path.

Place the thread at the optimum position, then insert the upper thread according to the sequential numbers in fig. 36, 37.



[Fig. 36]



[Fig. 37]

7.8 Upper Thread Adjustment.

A. Main Thread Adjusting.

As shown in fig. 38, turning the tension adjusting screw '1' clockwise increases the upper thread tension. Adjust the tension of the thread according to the material being sewn, the thread and the number of stitches.

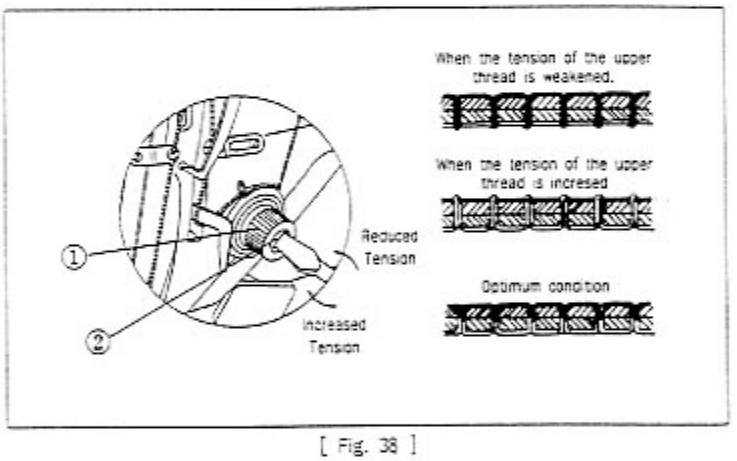
B. Tension Adjustment of Check Spring.

As shown in fig. 38, rotating screw '2' will increase the check spring tension.

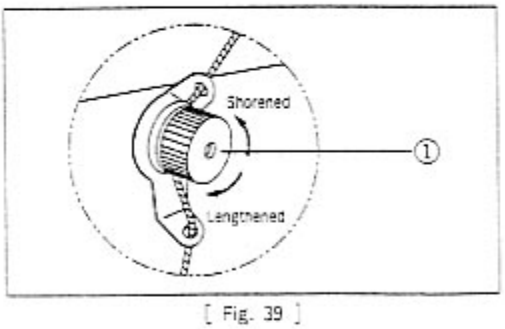
C. Thread Pre-Tension Adjustment.

As shown in fig.39, rotating the pre-tension screw '1' clockwise, the length of trimmed thread will be reduced. The optimum length of the remaining thread after trimming is 30-40mm.

D. Adjusting Thread Release Unit.

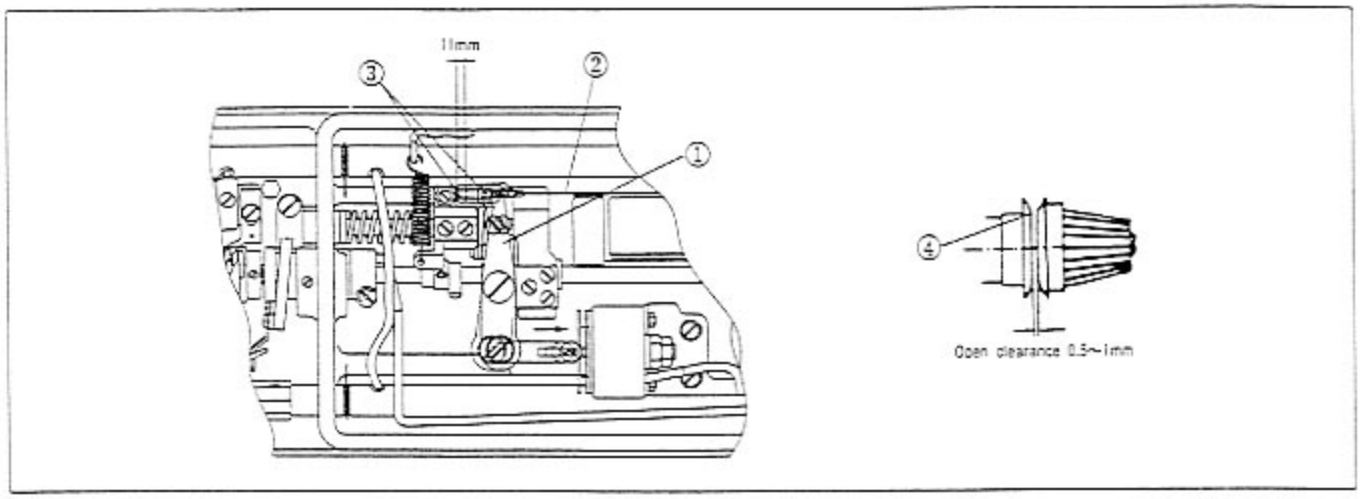


[Fig. 38]



[Fig. 39]

The thread release unit is operated by the movement of the thread trimming solenoid. As shown in fig. 40 the thread release gap can be adjusted by moving the thread release cable wire '2' which is attached to the thread release operation lever '1.' Release the two fixing nuts '3.' Then move the cable wire '2' to the left and tighten the nuts '3.' The thread release gap will have increased. If the cable '2' is moved to the right the gap will be decreased. Adjust the cable to give a gap of 0.5-1mm between the discs '4' when the thread release is operated. Ensure the discs are closed when the lever is released. The stroke of the thread release lever '1' is 5mm. Adjust the lever so that the discs '4' do not open during the first 2mm of lever travel and that they are open when the lever is pulled 2-5mm. Refer to fig. 40.

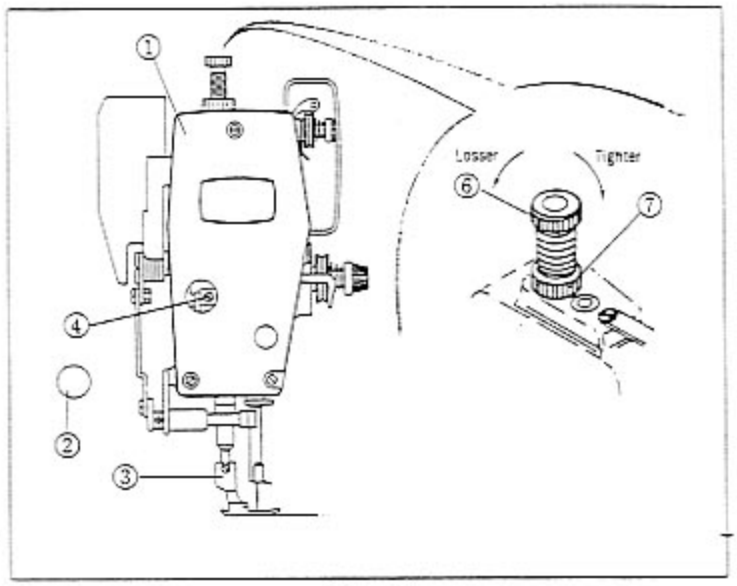


[Fig. 40]

7.9 Presser Foot Height and Pressure Adjustment.

A. As shown in fig. 41, remove the rubber plug '2' from the cover plate '1.' With the needle in the 'up' position and the presser foot '3' also in the 'up' position make sure the needle point is not showing below the presser foot. If the needle point is visible then release the presser bar holder screw '4' and adjust the holder until the foot covers the needle. Once the adjustment has been carried out check the presser foot will both clamp the jig in the 'down' position and also allow the jig to be loaded in the 'up' position.

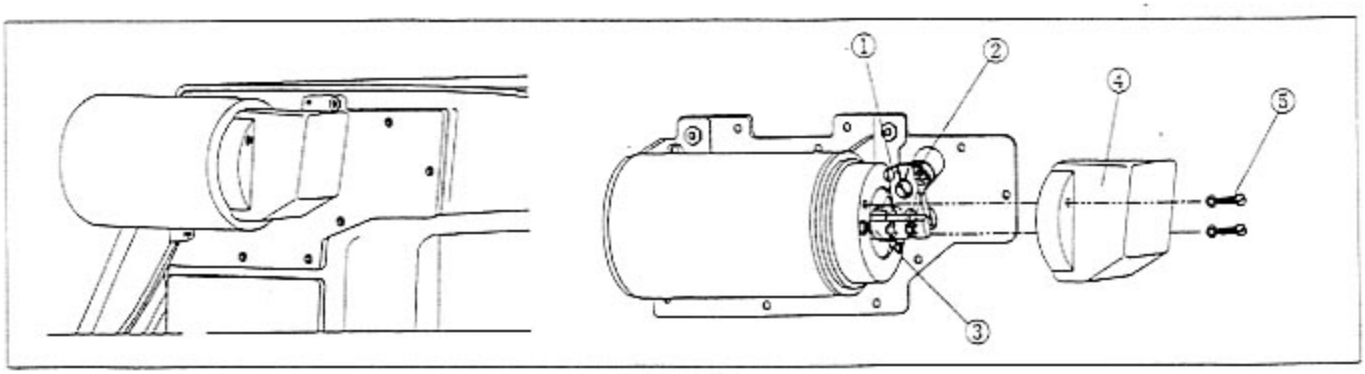
B. Adjustment of the presser foot pressure. As shown in fig. 41 rotating the adjusting screw '6' clockwise increases the foot pressure. After adjustment use nut '7' to lock adjusting screw '6' in position.



[Fig. 41]

7.10 Presser Foot Solenoid Adjustment.

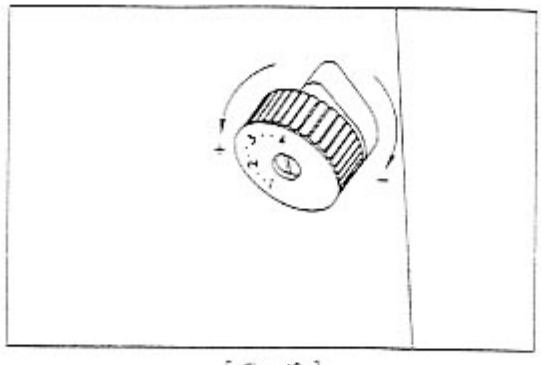
Presser foot travel can be adjusted on the presser foot solenoid crank '3.' Referring to fig. 42 Release the screws '5' securing the solenoid cover '4'. Release screw '2' for the solenoid crank pivot. Rotating the pivot '1' clockwise will increase the foot travel, anti clockwise will reduce the presser foot travel.



[Fig. 42]

7.11 Stitch Length Adjustment.

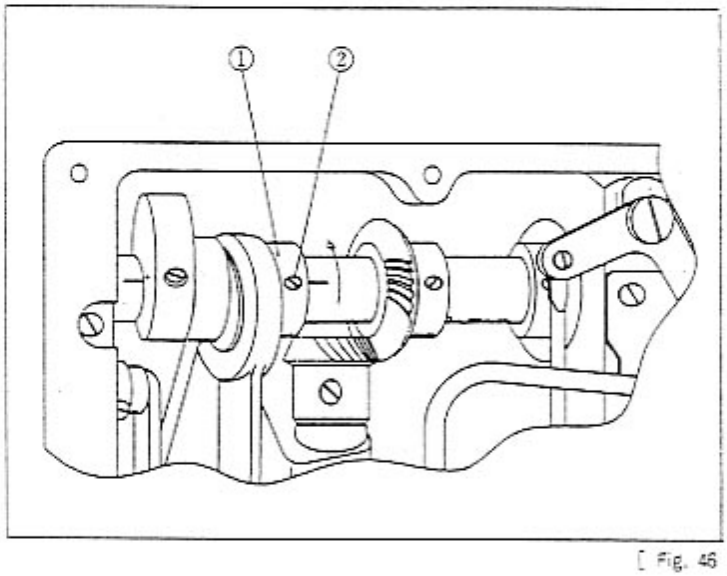
As shown in fig. 43 the dial '1' increases stitch size when turned anti-clockwise and reduces the stitch size when turned clockwise.



[Fig. 43]

7.12 Feed Cam Adjustment.

When the feed timing is correct the jig should be moved just after the needle has left the material. To obtain this timing remove the plate holding the presser foot lift solenoid and locate the feed cam '1' as shown in fig. 46. After releasing screw '2,' rotate the cam clockwise to advance the feed, or rotate the cam counter clockwise to retard the feed. Tighten screw '2' when finished.

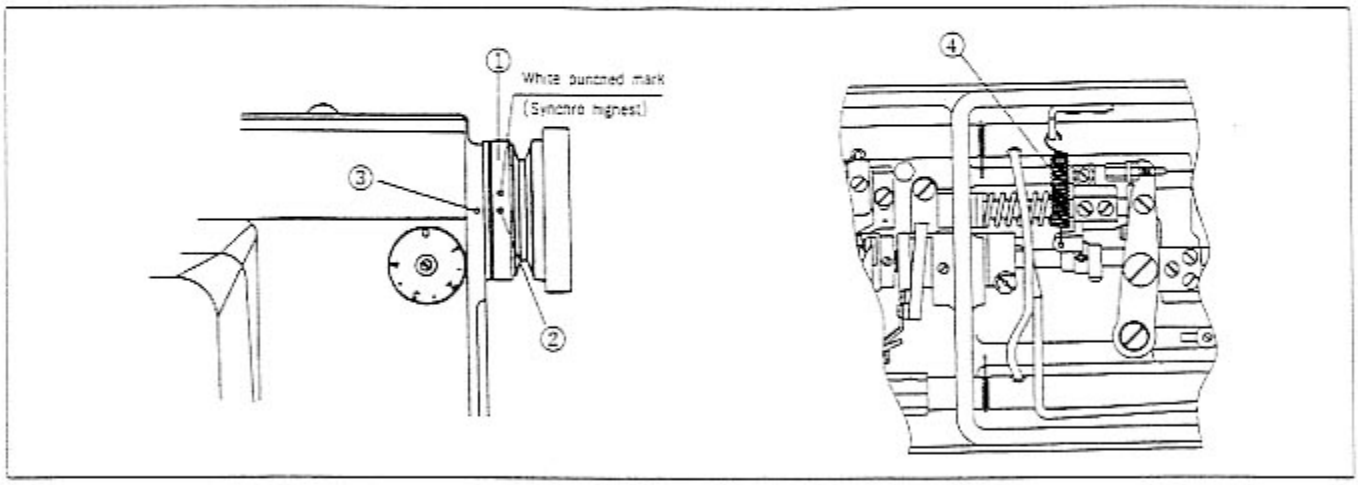


[Fig. 46]

7.13 Thread Triming Timing Adjustment.

A. Refering to fig. 48 line up mark '2' on hand wheel with punch mark '3' on head.

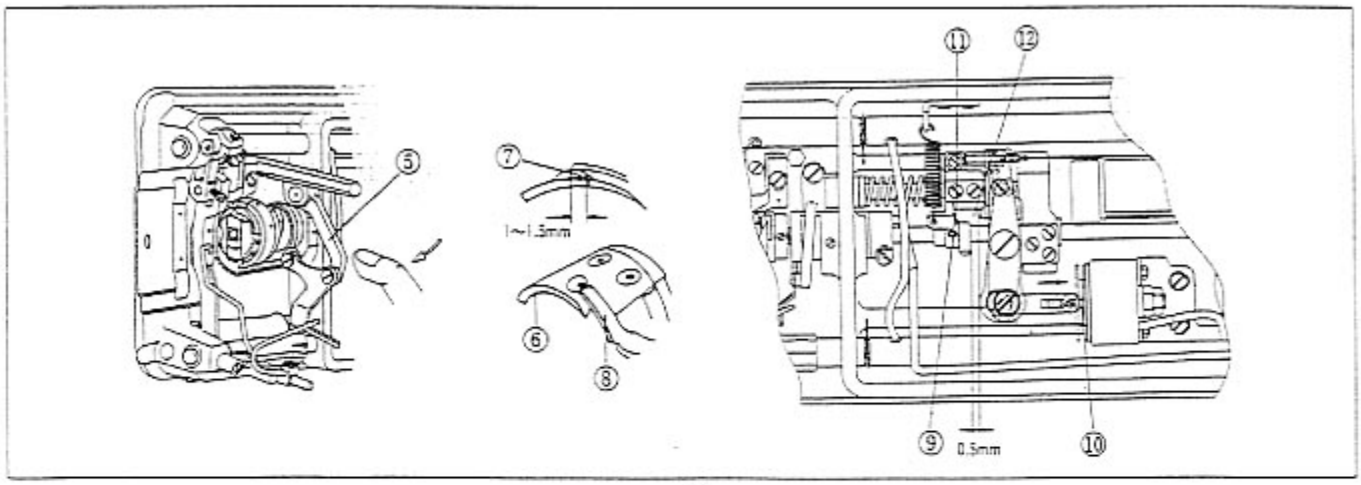
B. Remove spring '4' as shown in fig. 48.



[Fig. 48]

C. Referring to fig. 49, push trimming blade '6' up until fixed knife '8' is 1-1.5mm onto mound '7.'

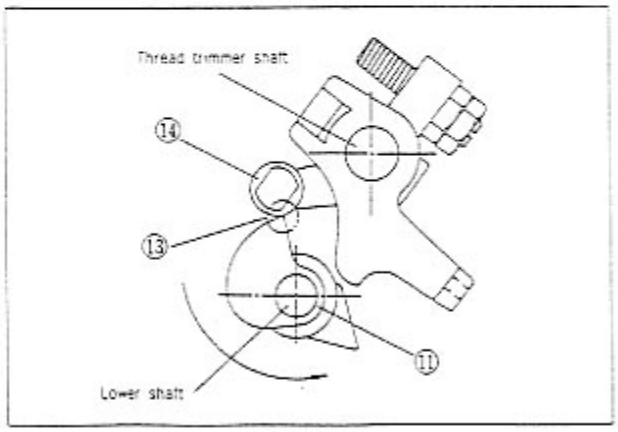
D. Referring to fig. 49, push thread trimming solenoid '10' in with screw '9' of the thread trimming cam slackened. The distance between trimming cam '11' and roller screw '12' is 0.5mm.



49

E. Tighten up screw '9' for the thread trimming cam after adjustment. Check the roller of cam '11' with roller '14' by rotating thread trimming cam '11' by hand. Refer to fig. 50.

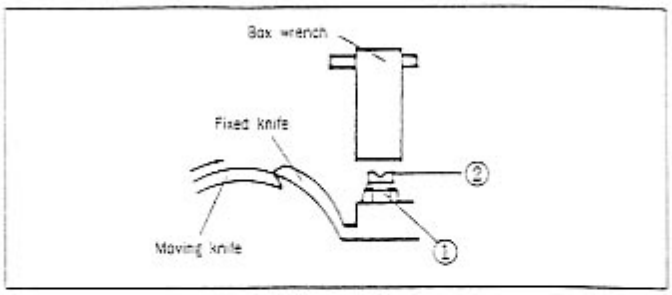
F. Connect return spring '4.'



[Fig. 50]

7.14 Fixed Knife Tension Adjustment.

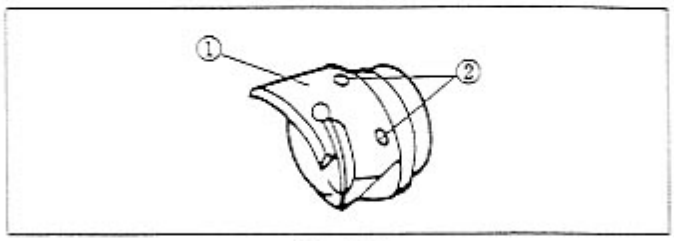
Release the tension adjusting nut '1' with a box spanner and release the tension adjusting screw '2.' As shown in fig. 51 push the moving knife towards the fixed knife until it's blade point meets the fixed knife point. Tighten the fixed knife tension adjusting screw '2' until the two blades touch without force. Tighten the tension adjusting nut '1.'



[Fig. 51]

7.15 Replacing The Moving Knife.

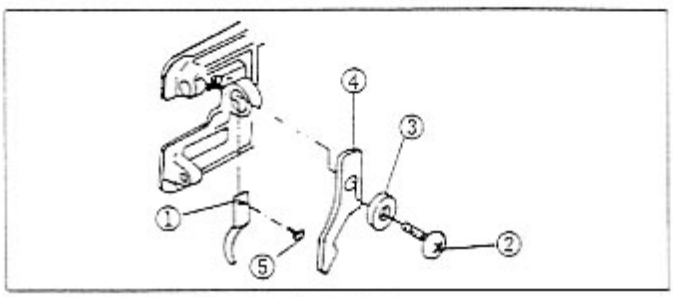
Ensure the needle is in the 'up' position and remove the throat plate. Referring to fig. 52 undo the two screws '2' and remove the moving knife '1.' Fit the new knife and tighten all screws.



[Fig. 52]

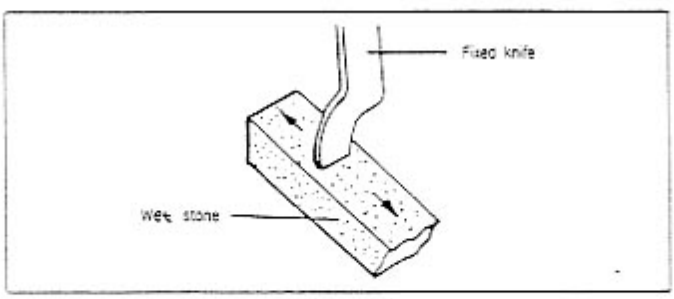
7.16 Replacing The Fixed Knife.

A. To replace the fixed knife '1' release the spool case positioning finger fixing screw '2' as shown in fig. 53 and remove washer '3' and finger '4.'
Remove the fixed knife screw '5' and then remove the fixed knife.



[Fig. 53]

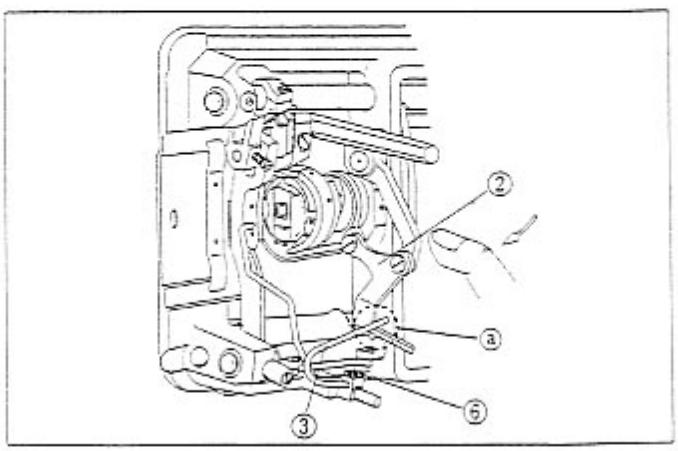
B. If the point of the blade is dull sharpen using an oil stone. Refer to fig 54.



[Fig. 54]

7.17 Bobbin Catcher Adjustment.

As shown in fig. 55 with the spool catcher lever '3' relaxed, release the fixing screws '6' and adjust the lever '3' until it is touching the bottom of the connector link '2' as shown by 'a.'

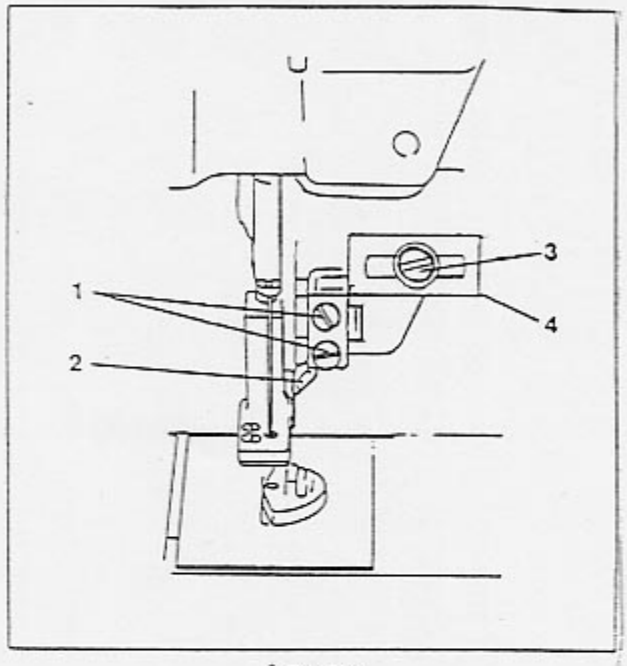


[Fig. 55]

7.18 Side Knife Replacement and Adjustment.

When the knife is engaged it should cut cloth cleanly without having excessive pressure on the throat plate.

Referring to fig. 56 loosen screws '1' and remove knife '2.' Insert new knife and, with the knife in it's lowest position, adjust knife holder '4' by releasing screw '3' and pushing knife upto throat plate. Tighten all screws.



[Fig. 56]

7.19 Sewing Head Trouble Shooting.

NO	Problem	Check	Cause	Maintenance
1	The needle is broken	Needle facing.	The needle is inserted incorrectly	Replace the needle correctly
		Needle	The needle is bent	Replace the needle
			Improper feed dog timing	Adjust the operating time
		Raised height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Clearance between the needle and the hook	Improper needle and rotary hook timing	Adjust the operating time
2	The thread is cut.	Threading	Threading is incorrect	Rethread it
		Needle	The needle is bent or damaged	Rethread the needle
		Needle facing and height	The needle is incorrectly inserted	Reinstall the needle correctly
		Upper thread tension	The tension is too tight	Adjust the tension adequately
		Lower thread tension	The tension is too tight	Adjust the tension adequately
		Stroke of the thread take up spring	The upper thread is loose	Adjust the thread take-up spring
3	The stitching is passed over	Needle facing and height	The needle is inserted incorrectly	Reinstall the needle correctly
		Needle	Needle is bent or damaged	Replace the needle
		Threading	Threading is incorrect	Replace the needle
		Raised height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Height of the needle bar	Improper needle and rotary hook timing	Adjust the operating time
		Clearance between the needle and the hook	Improper needle and rotary hook timing	Adjust the operating time
			Remains of the upper thread is too short	Adjust it with the thread tension adjusting unit.
		Bobbin case spring for preventing additional rotation	During the thread trimming, the bobbin rotates additionally. So, the bobbin thread coming from the bobbin case is too short to be raised up.	Change the spring for preventing the rotation.
		Thread take-up spring	The tension of the thread take-up spring is too losse to raise up the bobbin thread.	Adjust the stroke of the thread take-up spring

8.5 SYNCHRONISER SETTING

8.5 Synchroniser (Figure 8.5)

When sewing is interrupted with trim signal the machine should first stop with the needle bar positioned about 4mm past bottom dead centre, then proceed to trim and stop in take up lever up position.

a) Check the trimming speed, this should be 180 r.p.m. For adjustment, refer to EFKA manual (parameter 110 - section 7.4).

b) Remove the protecting cap of the synchroniser.

c) Display the EFKA motor stop positions (Parameter 172 - see EFKA manual, section 7.8).

d) Use the AMF Reece controller to position needle down (alternatively, use the EFKA hand plunger).

Holding the central disk with pliers, turn the hand wheel antil clockwise, until the needle reaches the lowest position. Then, keep turning the hand wheel past this position slightly, so that the lower of the two needle bar markers shows below the sewing head.

e) Use the AMF Reece controller to position needle up.

Holding the outer disk with pliers, turn the hand wheel antil clockwise, until the needle reaches the highest position. Then, turn the hand wheel slightly, so that the thread take up lever is in it's top turning point.

f) Check that the gap between the inner and central disks is 25mm.

g) Check both needle up and needle down positions.

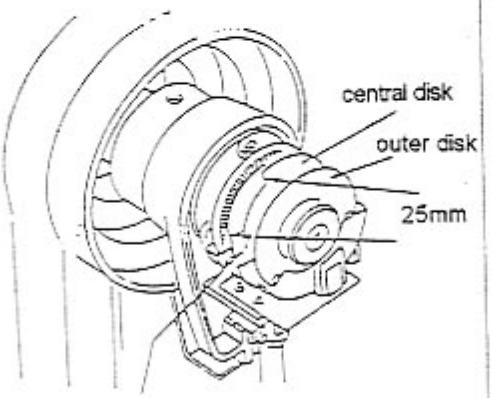


Figure 8.5

Program 1

1	Fast Sew	**ON**
2	Double Jig	**OFF**
8	Knife delay START	**OFF**
9	Knife delay END	**OFF**
10	Dense into Corner	**OFF**
11	Start dense time	**Delay 1,0 sec**
12	End dense time	**Delay 1,0 sec**
13	Set DENSE speed	**Speed 4**
14	SLOW sew speed	**Speed 6**
15	NEEDLE DOWN sped	**Speed 6**
16	MAX sewing speed	**Speed 11**
17	Jig Flap Action	**ON**
18	Speed to Corner	**Speed 11**
19	Auxillary drive	**OFF**
20	Ph-cell Retry QTY	**30**

Program 2

1	Fast Sew	**ON**
2	Double Jig	**OFF**
8	Knife delay START	**OFF**
9	Knife delay END	**OFF**
10	Dense into Corner	**OFF**
11	Start dense time	**Delay 1,0 sec**
12	End dense time	**Delay 1,0 sec**
13	Set DENSE speed	**Speed 4**
14	SLOW sew speed	**Speed 6**
15	NEEDLE DOWN sped	**Speed 6**
16	MAX sewing speed	**Speed 11**
17	Jig Flap Action	**ON**
18	Speed to Corner	**Speed 11**
19	Auxillary drive	**OFF**
20	Ph-cell Retry QTY	**30**

Program 3

1	Fast Sew	**OFF**
2	Double Jig	**OFF**
3	1st Jig Corner	**Needle down**
4	2nd Jig Corner	**Needle down**
5	3nd Jig Corner	**Cycle End?**
6	4th Jig Corner	**Cycle End?**
7	Stepback trimming	**OFF**
8	Knife delay START	**OFF**
9	Knife delay END	**OFF**
10	Dense into Corner	**OFF**
11	Start dense time	**Delay 1,0 sec**
12	End dense time	**Delay 1,0 sec**
13	Set DENSE speed	**Speed 4**
14	SLOW sew speed	**Speed 6**
15	NEEDLE DOWN speed	**Speed 6**
16	MAX sewing speed	**Speed 11**
17	Jig Flap Action	**ON**
18	Speed to Corner	**Speed 11**
19	Auxillary drive	**OFF**
20	Ph-cell Retry QTY	**30**

Program 4

1	Fast Sew	**OFF**
2	Double Jig	**OFF**
3	1st Jig Corner	**Slow sew**
3a	1st Corner slow	**Speed 0**
4	2nd Jig Corner	**Slow sew**
4a	2nd Corner slow	**Speed 0**
5	3nd Jig Corner	**Cycle End?**
6	4th Jig Corner	**Cycle End?**
7	Stepback trimming	**OFF**
8	Knife delay START	**OFF**
9	Knife delay END	**OFF**
10	Dense into Corner	**OFF**
11	Start dense time	**Delay 1,0 sec**
12	End dense time	**Delay 1,0 sec**
13	Set DENSE speed	**Speed 4**
14	SLOW sew speed	**Speed 6**
15	NEEDLE DOWN speed	**Speed 6**
16	MAX sewing speed	**Speed 11**
17	Jig Flap Action	**ON**
18	Speed to Corner	**Speed 11**
19	Auxillary drive	**OFF**
20	Ph-cell Retry QTY	**30**

Program 5

1	Fast Sew	**OFF**
2	Double Jig	**OFF**
3	1st Jig Corner	**Needle down**
4	2nd Jig Corner	**Cycle End?**
5	3nd Jig Corner	**Cycle End?**
6	4th Jig Corner	**Cycle End?**
7	Stepback trimming	**OFF**
8	Knife delay START	**OFF**
9	Knife delay END	**OFF**
10	Dense into Corner	**OFF**
11	Start dense time	**Delay 1,0 sec**
12	End dense time	**Delay 1,0 sec**
13	Set DENSE speed	**Speed 4**
14	SLOW sew speed	**Speed 6**
15	NEEDLE DOWN speed	**Speed 6**
16	MAX sewing speed	**Speed 11**
17	Jig Flap Action	**ON**
18	Speed to Corner	**Speed 11**
19	Auxillary drive	**OFF**
20	Ph-cell Retry QTY	**30**

Program 6

1	Fast Sew	**OFF**
2	Double Jig	**OFF**
3	1st Jig Corner	**Slow sew**
3a	1st Corner slow	**Speed 0**
4	2nd Jig Corner	**Cycle End?**
5	3nd Jig Corner	**Cycle End?**
6	4nd Jig Corner	**Cycle End?**
7	Stepback trimming	**OFF**
8	Knife delay START	**ON**
8a	Tape OFF	**OFF**
9	Knife delay END	**ON**
10	Dense into Corner	**OFF**
11	Start dense time	**Delay 1,0 sec**
12	End dense time	**Delay 1,0 sec**
13	Set DENSE speed	**Speed 4**
14	SLOW sew speed	**Speed 6**
15	NEEDLE DOWN speed	**Speed 6**
16	MAX sewing speed	**Speed 11**
17	Jig Flap Action	**ON**
18	Speed to Corner	**Speed 11**
19	Auxillary drive	**OFF**
20	Ph-cell Retry QTY	**30**

9.1 Stitching

FAULT	CAUSE	CORRECTION
9.1.1 Random thread breakage	Problem with thread path (including the throat plate and presser foot).	Remove burrs from thread path.
	Problem with the sewing hook.	Remove burrs, clean & polish. Check the hook point. Check the clearance between the hook and the bobbin case opener lever. Check lubrication.
	Thread is caught somewhere in the thread path.	Correct threading.
	Tension is wrong.	Adjust tension.
	Thread take-up spring misadjusted.	Adjust the take-up.
	Problem with needle.	Check or replace.
	Spool spin.	Fit friction washer.
	Material wrongly positioned in jig.	Ensure all stitching is in material.
	Jig damage.	Repair jig.
9.1.2 Slip stitching	Problem with the needle.	Check for needle damage and for correct needle orientation. Check that the needle size is correct for the thread being used.
	Problem with the sewing hook.	Check to see if the hook point is blunt or worn. Check the hook timing.
	Needle thread tension is too high.	Decrease the tension.
	Sewing head speed is too high.	Reduce the motor speed.
	Thread take-up spring misadjusted.	Adjust the take-up.
	Material flagging.	Check jig is clamping material. Check presser foot.
9.1.3 Short end on top or needle unthreads	Tension release mechanism.	Check that tension release is functioning properly.
	Underbed moving knife or counter knife out of setting.	Reset trimming, section 6.

9.1 Stitching

	FAULT	CAUSE	CORRECTION
9.1.4	Thread not trimmed	Thread catcher moved.	Reset synchroniser and trimming.
		Loose plug on solenoid lead.	
		Loose plug on synchroniser.	
		Synchroniser loose on handwheel.	Reset synchroniser, section 8.
		Sewing hook slipping last stitch.	Check to see if hook point is blunt or worn. Check hook timing.
		Blunt or misadjusted thread trimming knives.	Check knives.
9.1.5	Thread not picked up	Short end on spool thread due to "Spool Spin".	Increase the the pressure of the bobbin case holder positioning finger. Increase the bobbin thread tension.
		The pressure of the bobbin case holder positioning finger is too high.	Decrease pressure of the finger, but check for "spool spin" - see above.
9.1.6	Spool thread picked up late after first few stitches	Short end on needle thread.	Correct as 9.1.3.
		Short end on spool thread.	Correct as 9.1.5.
9.1.7	First few stitches looped underneath	Foot lift cylinder sluggish on return.	Remove, cleanand lubricate.

9.2 Machine Controls

	FAULT	CAUSE	CORRECTION
9.2.1	Machine fails to start	Jig in wrong position	Reset and return jig to machine correctly
		Excessive cloth thickness jig	
		Drop in air pressure	Check 80 PSI (5.5 Bars) on gauge
		Din plug loose	Re-connect
		Synchroniser plug out	Re-connect
		Wire off start button	Re-solder
9.2.2	Machine fails to stop	No tape at end	Add tape
		Photo-cell missing tape	Re-position tape
		Photo-cell not clearing tape at end of jig	Re-position tape
9.2.3	Machine fails to position	Wrongly programmed in Efka motor	See Section 8.5 Needle positions
9.2.4	Machine runs slow	Missed a signal from tape	Check position of tape
		Photo-cell	

9.3 Feed

	FAULT	CAUSE	CORRECTION
9.3.1	Small stitches	Worn drive wheel	Replace
		Damaged jig	Repair
		Excessive foot pressure	Reset to 1.5 - 2.0 kg
9.3.2	Large stitches	Presser foot not in contact with jig	Re-set presser bar, Section 3.10
		Pressure foot pressure almost zero	Re-set to 1.5 - 2.0 kg
9.3.3	Dense stitch fails to operate	Feed lever adjustment bracket screw loose	Re-set and tighten
9.3.4	Large stitches on corner	Corner speed too slow	Adjust speed by altering corner speed in A.M.F. Reece controller, Section 5.3.4
		Turn cyl movement too fast	Slow down through flow control
9.3.5	Small stitches on corner	Corner speed too fast	Adjust speed by altering corner speed in A.M.F. Reece controller, Section 5.3.4
		Turn cyl movement too slow	Speed up through flow control
9.3.6	Irregular profile at corner	Needle down switch selection for round corner	Switch to slow run position
9.3.7	Jig fails to stitch slow at corners	No signal check tape position	Reset tape position check photo-cell receiving signal
9.3.8	Jig fails to stitch a sharp corner	Photo-cell faulty	Replace
		Sensitivity	Re-set to sense black tape on jig
		Wrong program selected	Select correct program